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THE CHEMIST AND DRUGGIST

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CONTENTS: Vol. LII. No. 22.

PAGE
Australian Federation 859
Bankruptcies and Failures 862
British Pharmacopœia Comments:—
  Oils, Fats, Waxes, and Soaps 884
  Ointments 889
  Cascara and Cascara Extracts 892
Business Changes 864
Chemical Society 868
Colonial and Foreign News 858
Coming Events 898
Commercial Notes 883
Confessions of an Errand-boy.. 882
Correspondence 894
Council Couplets.............. 869
Deaths 865
Deeds of Arrangement 862
Dispensing Notes 895
Editorial Comments:—
  Pharmacopœial Difficulties.. 870
  West Indian Trade.......... 872
  Retailers and the Workmen's Compensation Act........ 873
  Poisonings in 1896 873
  The Discovery of Quinine .. 874
  Notes 875
English News 853

PAGE
French News 857
Gazette...................... 862
Highest Pharmacy in Europe.. 876
Information Wanted 898
Irish News 857
Legal Reports................ 860
Marriages 865
Medical Gleanings............ 880
Miscellaneous Inquiries........ 896
New Companies and Company News 832
Nottingham and Notts Chemists' Association 868
Personalities 869
"Pharmaceutical Formnlas" .. 880
Pharmacy in New York City .. 877
Photographic Notes 831
Side Lines:—Lubricating Oils 878
South African News 859
Students' Corner.............. 852
Town Traveller 866
Trade-marks Applied for 864
Trade Notes.................. 863
Trade Report 884
Western Chemists' Association 869
Westminster Wisdom 878
Wills 877

THE BRITISH PHARMACOPŒIA, 1898.

We supply this work to subscribers only at 8*s*., carriage free. Interleaved with superior ruled paper, 13*s*.

TO AMERICAN AND CANADIAN DRUGGISTS.

We are sending a large number of specimen-copies of this issue to pharmacists across the Atlantic, and hope the result will be that a good number of them will become regular subscribers, and also buyers and sellers of British goods.

Chemists who receive this copy are reminded that we charge **10*s*. ($2.50)** per annum for The Chemist and Druggist, post free to any part of the world, that the subscription may commence from the first issue of any month, and that it includes a copy of our next Diary.

We may mention to Canadian druggists that, in view of the certainty that the new tariff will have the effect of developing trade with the United Kingdom, we shall shortly send a representative to the Dominion for a business visit to the principal towns.

SUMMARY

The Plymouth Chemists have provided a special curriculum for their apprentices (p. 856).

A French Doctor reports that thallium acetate, taken internally, produces baldness in a few days (p. 857).

A Number of Letters on the British Pharmacopœia suggest points upon which uniformity is desired (p. 894).

The Pharmaceutical Society have taught some drysalters at Luton that they must not sell oxalic acid (p. 860).

Dr. de Vrij has reprinted the original paper in which Pelletier and Caventou described their discovery of quinine (p. 874).

An Article on "Lubricating Oils" gives hints from experience which chemists in manufacturing towns can take advantage of (p 878).

Citric and Tartaric Acids conforming to the B.P. sulphide-test are unobtainable, and it is suggested that the test should be modified (p. 875).

Although Trade in the West Indies is not brisk, there are signs that improvement will come in the near future. See the article on p. 872.

The Nottingham Chemists have appointed a committee to interview Mr. Yoxall, M.P., on the subject of his amendment to the Pharmacy Bill (p. 863).

Pharmacopœia Difficulties are discussed editorially on p. 870, with the object of showing that the inconvenience of the new B.P. is not insurmountable.

The question whether retail shops can be factories or warehouses so as to bring their employés within the Workmen's Compensation Act is dealt with (p. 873).

Mr. Glyn-Jones, as the defendant in a Sale of Food and Drugs case at the Thames Police-court, raised a point of law of considerable importance to chemists (p. 860).

We Print a Portrait of the first woman to get a doctor-of-pharmacy degree (p. 869). Details are also given of the Paris degree of doctor of pharmacy (p. 857).

The Carbolic Demon was not so avaricious of life in 1896 as in 1895; still, the free trade in carbolic acid places the fatalities from that poison far ahead of all others (p. 873).

"Our Town Traveller" reports on visits paid to Messrs. Cadbury Brothers, Bournville; Gibbs, Cuxson & Co., Oldbury; and Southall Brothers & Barclay, Birmingham (p. 866).

At the Chemical Society last week Professor Dewar described his experiments in the preparation of liquid hydrogen and helium. Each experiment costs 50*l*. (p. 868).

The Presidents of the Institute of Chemistry, Society of Chemical Industry, and Society of Public Analysts held a reception on Tuesday evening, which was a brilliant success (p. 853).

The Ointments of the B.P. are criticised by Mr. J. C. Umney; oils, fats, waxes, and soaps by Mr. E. J. Parry; and cascara and its extracts by Mr. John Moss; each writer indicating directions for improvement (p. 889).

A Manufacturer of Artificial Honey has been sentenced at Hamburg to three months' imprisonment, and to pay a fine of 1,500m., for doing bees' work, and two retailers have been fined 800m. for selling his honey (p. 858).

In a patent specification the Badische Anilin Company mentioned an autoclave, and it turned out afterwards that only an iron autoclave was effective. The Court of Appeal finds that the specification was insufficient, and the patent consequently invalid (p. 860).

STUDENTS CORNER

Conducted by Richard J. Moss, F.C.S., F.I.C.

Reports.

The mixture of salts distributed for analysis last month consisted of equal parts of zinc sulphate, ammonium alum, and calcium phosphate. Its calculated composition was :—

Zn ...	7·55
Al ...	2·02
Ca ...	12·90
NH_4	1·32
P_2O_4	20·43
SO_4	25·27
H_2O	30·51
	100·00

Iron was present as an impurity, also minute traces of chlorine and magnesium.

Samples of the mixture were sent to 58 applicants, and 37 reports of analyses were received in reply. The failures in the detection of the several constituents of the mixture were :—Ammonium, 13 ; calcium, 11 ; zinc, 7 ; aluminium, 3 ; phosphoric acid, 3 ; sulphuric acid, 0.

In the preliminary examination of the powder in the dry way it was important to observe the brick-red flame colouration caused by calcium, because, owing to the presence of that metal in the form of phosphate, there was a risk of its being overlooked in the usual course of analysis. The phosphates are for the most part very stable bodies at high temperatures, notably calcium phosphate, and for that reason it is badly adapted for volatilising in the Bunsen flame. It was possible, however, by thorough moistening with strong hydrochloric acid to obtain a satisfactory result.

Zinc is liable to be precipitated as hydroxide instead of being retained in solution until removed as sulphide. It is, therefore, well to be forewarned of its probable presence. In the present exercise the preliminary examination afforded strong indications of zinc. The change in colour from white to yellow when the powder was heated was very marked, provided the experiment were tried in bright daylight ; the change is not easily distinguished by artificial light. The most characteristic reaction was the production of a coating of zinc oxide on charcoal when the powder was ignited with sodium carbonate. The changes in colour of this coating from white to yellow when heated, and to green when ignited with a cobalt salt, are very characteristic.

The chief difficulty of this exercise arose from the presence of calcium in the form of phosphate. This salt is insoluble in water, and when its acid solution is neutralised by the addition of an alkali calcium phosphate is precipitated unchanged. Thus the addition of ammonia to an acid solution of the powder, instead of throwing down aluminium alone, gave a precipitate of calcium phosphate and aluminium hydroxide, with the trace of iron present as an impurity also in the form of hydroxide. The best way of dealing with this difficulty is to remove the phosphoric radicle in combination with iron. For this purpose the precipitate containing the phosphates and hydroxides is collected in a filter, washed, dissolved in as little hydrochloric acid as possible, the excess of acid is carefully neutralised with sodium carbonate, and then sodium acetate is added. The object of adding the acetate is chiefly to substitute free acetic for free hydrochloric acid, as it is essential that no trace of free mineral acid be present. Ferric chloride is then added in sufficient quantity to combine with all the phosphoric acid. On boiling, the iron is precipitated as phosphate, any excess being thrown down as basic acetate. This precipitate, being filtered off, may be discarded, while the filtrate is examined in the usual way for the metals that may have been present in the form of hydroxides, as well as the alkali-earth metals that may have been present as phosphates. This method presents no particular difficulty, provided the proper precautions are observed, and these can only be learned by trial with mixtures of salts of known composition.

Prizes.

The First Prize for the best analysis has been awarded to

A. E. King, c/o Messrs. Fuller & Co., Norwich.

The Second Prize has been awarded to

Arthur Rhodes, c/o Mr. J. H. Watson, Chemist, Shipley, Yorkshire.

Marks Awarded for Analyses.

A. E. King (1st prize)	100	Sccandee	83
A. Rhodes (2nd prize)	98	C. A. W.	82
C. J. Packham	96	J. L. B.	81
W. H. Hurn	96	Karluchan	80
A. E. Beeston	95	L. A. H.	77
Dover	94	Methodical	75
Lyra	93	R. T. S.	73
T. H. H. Francis	93	Achlam	70
X. Y. Z.	93	J. S.	67
Aberthaw	92	Kieselguhr	65
Cynic	92	J. Burns	62
A. J. Bills	92	Algol	60
Nux Areca	91	A. Crossley	58
Huxham	90	Epoc	56
D. J.	90	E. T. Y.	52
W. M. Lodge	85	B. P. S.	45
J. A. Goode	85	C. Manfull	40
W. S.	84	Beginner	15
T. T.	84		

To Correspondents

Prizes.—The students to whom prizes are awarded are requested to write at once to the Publisher, naming the book they select, and stating how they wish it forwarded.

Any scientific book that is published at a price not greatly exceeding half a guinea may be taken as a first prize.

Any scientific book which is sold for about five shillings may be taken as a second prize.

Note.—All communications should include the names and addresses of the writers.

T. H. H. Francis.—The quantity of ammonium in the powder was small, but its molecular weight is very low, less than half the atomic weight of potassium, so that a little ammonium goes a long way. All the evidence was in favour of the zinc existing as sulphate.

Huxham.—On continual boiling with water a certain amount of the calcium phosphate was converted into sulphate with the production of potassium phosphate.

W. M. Lodge.—You concluded that ammonium was probably absent ; with the very rough test you employed it would be difficult to arrive at a more definite result. Owing to the great solubility of ammonia in water any test depending upon the volatilisation of the gas can only be sensitive when there is very little water present.

J. A. Goode.—A minute quantity of the dry powder, less than a milligramme, mixed with dry soda-lime in a watch-glass, and then very slightly moistened, produced enough ammonia to admit of its easy detection by smell. By using red litmus-paper the ammonia could be detected in even a smaller quantity of the powder.

W. S.—There is no mention in your report of any test for the detection of ammonium.

T. T.—Boiling with an alkaline hydroxide is too rough a method for the detection of ammonium when it is present in small quantity. The ammonia is evolved slowly and in such a dilute condition that it may easily escape notice. See remarks to "J. A. Goode."

Seeandee.—You make no mention of the filtrate from ammonium chloride and ammonia. On adding ammonium sulphide to it zinc was precipitated as sulphide.

C. A. W.—When the powder moistened with hydrochloric acid was ignited on a platinum wire a brick-red colour was imparted to the flame, easily distinguished from the colouration of sodium. Having detected phosphoric acid in the ammonia precipitate, it was obvious that calcium or any of the alkali-earth metals might be present, and you should have adopted a method that would detect them.

J. L. B.—Your brief note gave very little information about your work. You should have stated what you did with the powder, and described exactly what you observed, giving sufficient information about each operation to enable one to judge whether it was properly conducted. See remarks to "C. A. W."

Karluchan.—When ignited on charcoal the powder became yellow, resuming its white colour on cooling. When the powder was mixed with sodium carbonate and ignited on charcoal, the zinc was reduced to the metallic state and volatilised, its vapour becoming again oxidised on the outer parts of the flame. In this way an incrustation was formed on the charcoal, yellow while hot and white on cooling. This incrustation, moistened with a cobalt salt and again ignited, became green. These marked indications of zinc pointed to the necessity of using ammonia abundantly as a group reagent and avoiding boiling, so as to keep the zinc in solution, in order that it might be separated as sulphide.

L. A. H.—You omitted to examine the powder for ammonium.

Methodical.—Having detected a phosphate in the portion of the powder insoluble in water, you should have remembered that calcium, if present, might be precipitated as phosphate when the acid of the solution was neutralised by the addition of ammonia

R. T. S.—The powder, moistened with hydrochloric acid on a platinum wire, gave the flame a very distinct calcium colouration. Ignited on clean platinum foil with sodium carbonate and nitrate, it gave no trace of a green colour; you must have introduced manganese accidentally.

Achlam.—In examining the portion soluble in water you only proceeded as far as the detection of aluminium. The filtrate from ammonium chloride and ammonia gave with ammonium sulphide the characteristic white precipitate of zinc sulphide.

J. S.—You omitted to examine the powder for ammonium. It would seem from your very imperfect notes that you discarded the solution you should have examined for aluminium.

Kieselguhr.—See remarks to "Karluchan." You too hastily concluded that the precipitate of zinc sulphide consisted of sulphur; there was no reason why sulphur should separate under the circumstances.

John Burns.—The method you employed should have led to the detection of aluminium if properly conducted. It is necessary to add enough hydrochloric acid to the sodium-hydroxide solution containing aluminium to completely convert the sodium into chloride, then to add ammonia in distinct excess. In examining the portion soluble in acid you omitted to add ammonium carbonate to the filtrate from ammonium sulphide. The precipitate you obtained with sodium phosphate was calcium phosphate.

Algol.—The experiment you tried with turmeric paper for the detection of boric acid may easily give a misleading result if there is too much free hydrochloric acid present. The result should always be confirmed by the alcohol flame-test.

Arthur Crossley.—The precipitate you mistook for calcium oxalate was calcium sulphate; the mistake is easily made when sulphates are present in quantity. The conversion of the oxalate into carbonate by gentle ignition at once distinguishes it from the sulphate.

Epoc.—See remarks to "Achlam." The phosphoric radicle should have been removed from the ammonia precipitate in the form of ferric phosphate so as to admit of the detection of aluminium and calcium by the ordinary tests.

E. T. Y.—The precipitate you thought due to sulphur consisted of zinc sulphide; there was no reason to suppose that sulphur would be precipitated under such conditions.

B. P. S.—Your examination for the acid radicles was very superficial and incomplete; you did not attempt to detect a phosphate, and a number of acids might have been present, as you did not prove them to be absent.

C. Manfull.—A solution of the powder in dilute nitric acid gave only a very slight turbidity with silver nitrate, showing that only a slight trace of chlorine was present.

Beginner.—Your results were rather wide of the mark; the exercise was more difficult than usual.

Local newspapers containing marked items of news interesting to the trade are always welcomed by the Editor.

Festivities.

The employés in Messrs. Burgoyne, Burbidge & Co.'s laboratories had an outing to Welling on Saturday, May 21. They had dinner at the Nag's Head, and dinner was followed by a smoking-concert, given by "Burgoyne's Laboratorians," over which Mr. A. M. Cheyne presided. The programme announced, "Commence 7 P.M., ambulances 10.30 P.M."

On Monday the students of the Imperial College of Chemistry paid a visit to the Botanic Gardens, Kew, under the guidance of Mr. Frederick Davis. The Economic House was visited, the plants of pharmaceutical interest being especially examined. These included aloes, cinchona, cinnamon, gamboge, belladonna, tobacco, and stramonium. The Museum furnished matter for more than an hour's lecture upon the dicotyledonous, monocotyledonous, and acotyledonous formations. Subsequently nearly an hour was spent upon the diagrams and models representing the natural orders.

On Saturday last Messrs. Edward Cook & Co., of the East London Soapworks, Bow, entertained their staff, heads of departments, and travellers, numbering in all about one hundred, at the Holborn Restaurant to a dinner. Mr. E. Rider Cook, the senior partner, occupied the chair, and was supported by Mr. Henry J. Cook, Mr. William Cook, Mr. T. Alick Cook, Mr. Samuel Hall, Mr. E Miall Cook, Mr. Martyn Cook, and Mr. Godfrey Hall. In responding to the toast of "The Firm," the Chairman said how pleased he and his partners were at being able again to welcome them all. It was the desire of the firm, and had been so for many years, that when a successful year had been attained they should share the profits with their employés who had been in their employ during the whole of the previous year. He felt sure the principle of profit-sharing was the right one. Bonuses were then distributed, and during the evening songs and recitations were well rendered by Mr. H. T. Attwell, Mr. W. Waller, Mr. J. Chapman, Mr. C. J. Firman, and Mr. George A. Briance, mandoline solo by Mr. Chris. Catt, violin solo by Mr. S. Green. Mr. F. E. Blair accompanied on the piano. All the performers are members of the staff. Bonuses will be distributed among the workmen shortly who have been in the employ of the firm during the whole of the year 1897.

The fusion of forces by which the Institute of Chemistry, the Society of Chemical Industry, and the Society of Public Analysts gave a reception at the Royal Institute of Painters in Water Colours, Piccadilly, on Tuesday evening was a complete success, for rarely have been gathered together in the metropolis so representative a body of working chemists. It was not a constellation of a few score of satellites round a few bright particular stars of the chemical world, but a large and fair sample of the bulk. More than five hundred tickets were delivered up at the doors, which means a company of about a thousand. The rooms were never inconveniently crowded, as people were coming and going. The guests were received by Dr. and Mrs. Stevenson, Professor and Mrs. Frank Clowes, and Dr. and Mrs. Bernard Dyer in the central gallery. The east gallery was used as a music-room, and the west one for refreshments. The music by the Westminster Singers was much enjoyed. Amongst leading men present we noticed Sir Edward Frankland, K.C.B., Sir H. E. Roscoe, Sir Alexander Binnie, Sir Robert Pullar, Sir Richard Webster (the Attorney-General), Sir William McCormac (President Royal College of Surgeons), Sir F. Abel, Sir Bernard Samuelson, Professor H. E. Armstrong, F.R.S., Professor J. M. Thomson, F.R.S., Professor W. R. Dunstan, F.R.S., Dr. Wynne, F.R.S., Dr. S. Rideal, Mr. John

Newlands, Dr. W. H. Perkins and Miss Perkins, Mr. B. E. R. Newlands, Mr. John Hutton, and Mr. Cresswell. Pharmacy and the drug-trade sent a goodly contingent. We noticed the following:—Mr. Walter Hills (President of the Pharmaceutical Society), Mr. and Mrs. W. Martindale, Mr. and Mrs. Michael Carteighe, Mr. T. H W. Idris, L.C.C., Mr. and Mrs. John Robbins, Mr. and Mrs. David Howard, Mr. D. Lloyd Howard, Mr. and Mrs. R. W. Greef, Mr. and Mrs. J. Hills Hartridge, Dr. and Mrs. John Attfield, Mr. Thomas Tyrer, Dr. Frederick Power, Mr. Edmund White, Mr. W. Lloyd Williams, Professor and Mrs. H. E. Greenish, Mr. and Mrs. Helbing, Mr. and Mrs. E. J. Millard, Mr. and Mrs. J. F. Fuerst, Mr. and Mrs. Peter MacEwan, Mr. F. C. J Bird and Miss Bird, Mr. and Mrs. F. W. Short. Mr. and Mrs. E. J. Parry, Mr. and Mrs. J. O. Braithwaite, Mr. Heap, Mr. F. R Stephens, Mr. and Mrs. P. T. White, Mr. and Mrs. A. Dowler White, Mr. and Mrs. Charles Tyrer. and Mr. C. E. Sage. The reception lasted from 8 30 to 11 30.

P.A.T.A.

The Grocers' Retail Section executive of the P.A.T.A. held their first meeting at the Holborn Viaduct Hotel on May 21, and with a reckless disregard of inevitable confusion they elected Mr. John Williams, of Manchester, as their Chairman, and Mr. John Williams, of Holloway, as their Vice-Chairman. They are now in communication with the wholesale grocers, who do not seem unanimously eager to form a section of their own. The wholesalers are asked whether they will co-operate or whether they would prefer that retailers and manufacturers should come into more direct contact. Grocers' associations are also being asked to co-operate by simultaneous action in response to circulars from headquarters.

Registration of Postal Packets.

The Postmaster-General has given notice that postal packets for inland delivery can henceforth be registered up to 120*l*. at the following rates :-

Fee	Limit of compensation	Fee	Limit of compensation
2*d*	5*l*.	9*d*.	70*l*.
3*d*.	10*l*.	10*d*.	80*l*.
4*d*	20*l*	11*d*.	90*l*.
5*d*.	30*l*.	1*s*. 0*d*.	100*l*.
6*d*	40*l*.	1*s*. 1*d*.	110*l*.
7*d*.	50*l*.	1*s*. 2*d*.	120*l*.
8*d*	60*l*.		

Hitherto the limit of compensation has been 50*l*.

Cheshire Salt industry.

The chemical and salt trade of Mid-Cheshire continues in a depressed condition. This fact, however, has not prevented Messrs. Bowman, Thompson & Co., chemical-manufacturers, Lostock, Northwich, from completing an important salt-manufacturing plant. Thirty large pans have been erected, and as there is an unlimited supply of brine, they hope to produce a weekly output of 2,000 tons.

Chemists Not Wanted.

The Bradford Chemists' Association made application recently to the City Council for representation on a committee formed to manage the Bradford Technical College, which is about to be municipalised. The committee is to consist of twenty members of the Council and ten co-optative members. The application of the chemists has been refused.

Drugs in Kent.

Out of twenty-one samples of drugs examined by Mr. Adams, the Kent public analyst, during the past quarter, only one, a sample of citrate of magnesia, was found to be adulterated.

Irrepressible.

Messrs. Forshaw & Snow, of Bradford, who last year induced "His Most Gracious Majesty the King of Greece" to appoint them his pharmacists, now announce that "Her Majesty the Queen Regent of Spain has deigned to confer upon them the title of chemists to the Royal Court of Spain," and they tell us that General Correa has sent them an order for 3,000 doses of chloroform for use in the Spanish army medical department.

Robberies from Chemists.

At the Sheffield Police Court, on May 23, before the Stipendiary, Mr. E. M. E. Welby, a youth named Charles Frederick Lamb, 18 years of age, was charged with having stolen 23*s*. 6*d*. from Mr. J. H. Holton, chemist, Carlisle Road, Grimesthorpe. On May 4 the prisoner was sent by Mr. Holton's assistant with the sum of 23*s*. 6*d*. to purchase some patent medicine. He did not return, and was only apprehended a few days ago. He admitted the offence, and was sent to gaol for twenty-one days.

A man named Thomas Horne, who refused his address, was brought up at Romford Police Court on May 19, charged with committing a burglary at the residence of Mr. William Charles Young, chemist, stealing therefrom two overcoats, two handkerchiefs, two pairs of gloves, and a cap, value 7*l*. Mr. Young stated that shortly after he retired to rest on the night of the robbery he heard a noise downstairs. On proceeding to the lavatory he found the window open, and also discovered that a sideboard in the dining-room had been forced open. Half an hour later accused was arrested with the stolen articles in his possession. When charged he admitted the offence. Accused was remanded for a week, pending inquiries by the police.

A Window-display.

The charge of obstruction brought against Mr. Thomas Waddington, chemist and druggist, Morecambe, was heard at the Lancaster County Petty Sessions on Saturday. We reported the circumstances last week. when a warrant was issued for Mr. Waddington's personal attendance, but on Mr. Waddington's promise to attend the warrant was not executed. The police evidence of obstruction to the thoroughfare was in respect to an automatic machine for advertising Daisy headache-powders. Superintendent Cocker said the case would not have been proceeded with if defendant had not set the Bench and the police at defiance by not appearing when summoned. Mr. Tilly, for Mr. Waddington, pleaded guilty to causing the obstruction in the manner indicated, but said it was a very minor offence. Defendant had removed the machine, and would undertake not to use it any more. Mr. Garnett, jun. (who granted the warrant), said the bad point in the case was that the defendant after being warned by the police continued it, and when summoned did not appear. The warrant was granted because he set the Court at defiance. Mr. Tilly said Mr. Waddington was advised that he need not attend personally, but he had now discontinued the machine. The Bench inflicted a penalty of 20*s*. and costs.

Killed by Chemical-manufacturers' Van.

An inquest was held at Birmingham on May 23 on the body of Arthur Kirby, a child 3 years of age. On May 20 the lad was knocked down and killed by a float belonging to Messrs. Cruickshank, chemical-manufacturers, Camden Street. The jury returned a verdict of accidental death, exonerating the driver from all blame.

The Manufacture of Chemical-manure.

At the Thames Police Court, on May 25, Thomas Spiers Price, of 61 Hopton Road, Streatham, was summoned for establishing the business of a manure-manufacturer contrary to the statute. Mr. G. H. Young, who prosecuted on behalf of the Poplar District Board of Works, said the summons was taken out under section 19 of the Public Health Act of 1891. In consequence of complaints an inspector of manufactories visited Langbourne Wharf, West Ferry Road, Millwall, where he found the business of a manure-manufacturer being carried on by defendant under the title of "The Thames Chemical-works." The inspector saw a large pile of bones, giving off offensive vapours, sacks of dried bones—evidently imported into this country—sugar scum, sulphuric acid, and manufactured manures. The question of nuisance or no nuisance did not arise, as the Act of Parliament said the business was an offensive one, and had been absolutely prohibited. Although the works were registered under the Alkali Act, that certificate would not entitle the defendant to infringe the Public Health Act.

Mr. W. C. Young, public analyst, deposed that the premises were used for the manufacture of chemical-manures, and, in cross-examination, he admitted that superphosphate was used in the place of tartaric acid for making pastry, eliciting the remark from Mr. Head (the Magistrate) that he never knew there was such close affinity between pastry and manure. For the defence Mr. A. E. Fletcher, F.I.C., late chief inspector under the Local Government Board, said that in his opinion the process at these works was of a purely chemical nature; and Mr. F. N. Sutton, inspector for the Local Government Board under the Alkali Act, said the works were exclusively for chemical treatment by means of sulphuric acid, and he did not think it had anything to do with the Public Health Act. Mr. Mead, however, held that the business carried on was within the meaning of the subsection, and fined defendant 1*l*., and 3*l*. costs, refusing to grant a case for appeal.

Assistantism.

At Bacup Police Court, on May 18, John Brierley, chemist's assistant, was charged with drunkenness. Police evidence was given as to finding defendant very drunk in Bank Street, with a large wound on his nose. Defendant had nothing to say, and was fined 2*s*. 6*d*. and costs, or seven days' imprisonment.

An assistant was discharged for drunkenness and inability in a Lancashire town. He subsequently wrote to another assistant in the same employ, and, among other things, said:—

> I was wondering if I was to write a reference out whether you could send it from the shop for me—that is, supposing I was requiring one.

A curious absence not only of moral principle, but even of idea of the criminal law.

Poisoned by Antifebrin.

At Darwen, on May 23, the adjourned inquest was held relative to the death of Albert Johnston, who died under circumstances as reported in our issue of May 14 (page 783), the inquest being adjourned in order that the contents of the stomach might be examined. Mr. Carter, solicitor, watched the proceedings on behalf of Mr. Woolley, Blackburn, the manufacturer of "Woolley's headache-powders." Mr. Woodroofe Fletcher, barrister, said he appeared on behalf of Messrs. James Woolley, Sons & Co. (Limited), of Victoria Bridge and Market Street, Manchester, to say that they were neither the manufacturers nor the vendors of the powders in question. Inspector Whittaker, of the Darwen police, deposed that he had sent the contents of the stomach and one of the powders that had been found in the bedroom to Dr. Campbell Brown, the Lancashire county analyst. He had received two letters from Dr. Brown to the effect that the powders were found to contain antifebrin, with a little caffeine, and as the man seemed to have taken an overdose of antifebrin, he did not think it worth while making an analysis of the contents of the stomach. Mr. Carter remarked that the directions on the powders were perfectly clear, and if the directions had been followed there could not possibly have been any mischief. The Coroner observed that on the night before Johnston died he appeared to have taken two of these powders in quick succession, and they had been two much for him, and had brought on the collapse. He did not think the powders should be condemned, for the taking of a double dose of many a thing was dangerous. The following was the verdict:—"Deceased took two of Woolley's headache-powders, containing an overdose of antifebrin, from the effects of which he died. Therefore, he accidentally came to his death."

Arsenical Rat-poison.

On May 13 Mr. John Troutbeck concluded an inquest at the Westminster Coroner's Court with reference to the death of Ellen Walker, aged 26, a housemaid, who died suddenly about a month previously at the St. Stephen's Club, Westminster, where she was employed.

As Dr. Joley, who made the *post-mortem* examination, was unable to attribute death to any particular cause the Coroner sent the viscera and contents of the stomach, together with a tin of rat-poison found in the housekeeper's room, to St. Bartholomew's Hospital for analysis. Mr. Frederick Womack, M.B., B.Sc., lecturer at the above-mentioned hospital, and analyst to the London County Council, now stated that he found about $\frac{1}{6}$ gr. of arsenic in the contents of the stomach and nearly $\frac{1}{3}$ gr. in the intestines, but that was no indication of the amount originally taken. He also examined the contents of two tins of rat-poison, and found that they contained 11 per cent. of white arsenic. From 1 to 2 gr. was a fatal dose. He had no doubt death was due to arsenical poisoning, as the symptoms four days before her death pointed to the effects of the poison. There was sufficient poison in the tin to kill thirty persons.

By the Coroner: There was nothing on the label to denote that the tin contained arsenic. The contents were supposed to "burn a rat up and leave nothing but the skeleton." The word "poison" was in parentheses and in smaller type.

William Taylor, of 35 Windsor Road, Ealing, said he was a traveller in the service of Mr. Shorey, a manufacturing chemist. He went to the St. Stephen's Club on April 1 to put down poison for rats. A carpenter with whom he had left tins before, and whom he knew to be a careful man, undertook to put some more down at night.

The Coroner: Did you not take steps to see what became of this terrible poison? Witness: I explained to him that he must be most careful. The Coroner: But what did you know about this carpenter? Witness: I had seen him there several times. Witness could not explain how one tin got into the housekeeper's room, but the carpenter told him he was going to give the manager a tin. The label did not state that it contained arsenic, but it stated that it was a poison. The Coroner: It is the common practice nowadays for all patent medicines to be labelled with the poisons they contain. Witness: We do no retail business; we only manufacture the poison. We have a contract to supply this and other clubs, and never take any money for the tins. The Coroner: Your business was not with a chemist, but with the people who actually used the poison, and it looks to me very like retail trading. Did you take any precautions under the Poisons Act? Witness: So far as I know I have taken every possible precaution. The Coroner: Do you keep a book in which to enter the names of persons to whom you supply poisons? Witness: Yes. The Coroner: Did you enter the name of the carpenter? Witness: No, not his name. The Coroner: Where is your book? Have you it with you? Witness: No, I do not keep a book of that sort; I keep a memorandum-book. The Coroner: It is very irregular. It is really evading the Act of Parliament. You cannot leave poisons of this deadly nature about in this casual way.

John Shorey, manufacturing chemist and "vermin-destroyer," 67 Farringdon Road, E.C., said he was the manufacturer of this poison. "Arsenic" was not put upon the label because he did not wish to make the secret public property. There are other compounds in the mixture besides arsenic, but if all were printed on the label there would be no use advertising it. He thought "Poison" was sufficient. The Coroner: But you know when a retail chemist puts "Poison" on anything he does it in prominent red letters, so that no mistake may be made. On this tin "Poison" is put in smaller letters than the rest of the label and in exactly the same colour, and many might not notice it.

The foreman of the jury suggested that in future the words "Deadly Poison" should be put on the tins in large letters.

Witness: We have left it with people to put down—managers, and other responsible persons—for many years, without the slightest accident.

The Coroner said he took a very serious view of this case, and it was quite possible that some action might be taken. It seemed to him that the death ought not to have occurred; arsenic had so long been recognised as a most dangerous and deadly poison. They would never know how many tins of this stuff there were about; at all events, there were a great many. The inconspicuous way in which it was labelled was a serious matter, and he should recommend that the case be further looked into. The jury found that the deceased died from arsenical poisoning, but there was no evidence to show how it was administered. The Coroner handed the tins to Inspector Cheyney.

L.C.C. Chemists' Department.

At the weekly meeting of the London County Council on Tuesday it was agreed on the recommendation of the

Establishment Committee that the salary of Mr. Grimwood, senior chemical assistant in charge of the central laboratory of the Council, be increased from 350*l.* to 400*l.* a year, by two annual instalments of 25*l.* It was also agreed that Mr. E. T. Shelbourn should be appointed an assistant in the second class in the chemists' department at the commencing salary of 150*l.* a year.

Cricket.

Pharmaceutical C.C. *v.* Bolland (Hodgkinsons, Clarke & Ward). Played at Tottenham, May 21. Scores: Pharmaceutical, 47; Bolland, 60.

Birmingham Health Authorities and the New B.P.

The Health Committee of the Birmingham City Council have been discussing the new B.P., though it cannot be said that the result is satisfactory for chemists. Councillor Price, himself a chemist, and a member of the committee, raised the question, and at his instigation it was referred to a sub-committee. Mr. Price urged that some notification should be issued to the trade as to what they might expect, and also that samples for the next six months should be accepted if they conformed either to the Pharmacopœia of 1885 or the new one. He pointed out that it would mean a great loss to chemists if they had to turn out their old stock forthwith, and that even at the end of six months many tinctures which were not in large demand would still remain unsold. The sub-committee, however, declined to give any definite undertaking, and this decision has been confirmed by the General Committee. Chemists, therefore, are uncertain as to which formulæ samples will be judged by, though as every case has to come before the committee before a prosecution is ordered it may be taken for granted that their interests will be looked after by Mr. Price. In conversation with our representative, Mr. Price expressed the opinion that the committee would not for the next few months prosecute in a case where the sample conformed to the old B.P., and that even if they did a magistrate would hesitate before he convicted.

Pharmaceutical Curriculum for Plymouth.

A special meeting of the Plymouth, Devonport, Stonehouse and District Chemists' Association was held on May 23 to discuss the question of establishing permanent classes for Minor examination students in Plymouth. The President of the Association (Mr. Cocks) was in the chair, and the attendance included a large proportion of the junior section. Mr. Turney, Chairman of the Educational Committee, said that the scheme virtually meant the adoption in Plymouth of a complete curriculum for pharmacy students. The syllabus had been drawn up after many meetings and much consultation with the authorities at the technical schools. After very careful consideration the committee had arrived at a scheme of three years' study, the classes to be held at the technical schools and under their authority. The tuition afforded an apprentice in the last three years of his pupilage would fit him for examination by the time his apprenticeship was finished. The student was recommended to spread his subjects over three years, taking for the first year elementary inorganic chemistry, practical chemistry, elementary botany, and elementary physics; for the second year, advanced inorganic chemistry, advanced practical chemistry, advanced botany, the theory of pharmacy and pharmacy law; third year, dispensing, &c., with prescription Latin, organic and pharmaceutical chemistry, and materia medica. The fees for the course would be: First year, 1*l.* 18*s.* 6*d.*; second year, 3*l.* 10*s.* 6*d.*; third year, 4*l.* 10*s.* Separate subjects could be taken if desired, but the three courses would be taught concurrently. The Plymouth Technical Education Committee acquiesced entirely in the scheme, and it only remained for the meeting he was addressing to accept or reject the proposals. In establishing such classes they would achieve a work of which they might well be proud, and one which would reap its own reward. By its adoption they in the three towns would solve in a great measure the educational problem for themselves. He desired to testify to the good work done by Messrs. Reade and Johnson in connection with the drawing up of the scheme. In conclusion he moved:—

> That this meeting approves of the prospectus of classes to be held at the Technical Schools, providing that the Technical Schools Committee offer such terms as will protect the interests of the Plymouth, Devonport, Stonehouse and District Chemists' Association.

Mr. O. R. Reade seconded the motion, which, after a short discussion, was put to the meeting, and carried unanimously.

Charge of Fraudulent Advertising.

At Mansion House Police Court last week Henry Thomas Kirk Richards, otherwise Thomas Kempe (34), patent-medicine vendor, was charged with obtaining the sum of 15*s.* 3*d.* from William Thomas Cooper by false pretences. The prisoner, who had an office in Cathedral House, St. Andrew's Hill, Queen Victoria Street, was stated to have inserted advertisements in newspapers offering to send to persons who applied for it a copy of an essay on the treatment of deafness. Mr. Cooper saw the advertisement and wrote for the essay. He received a copy, and also a letter recommending an inhalation method of treatment, and advising him to send 15*s.* for an inhaler and preparation. He sent 15*s.* 3*d.* for the inhaler and preparation, but did not receive them. The detective-officer who arrested the prisoner said he searched the prisoner's office and found a number of letters of complaint from persons who had sent money. The case was taken up by the Public Prosecutor, for whom Mr. Stephenson appeared. It was stated that the prisoner advertised largely in religious papers, and that his appliances (if sent out at all) were simple instruments procurable at chemists' for 6*d.* His alleged newspaper comments and testimonials from grateful patients were fictitious. His so-called "institute" consisted of two sets of rooms, one in the name of "Forder" as an advertising-agent, and the other as "Kempe." Visitors to these chambers never succeeded in seeing the principals. When visitors called at the "institute" "Kempe was absent," but Mr. "Forder" was brought up to see the callers, and when "Forder" was wanted Mr. "Kempe" explained his absence. The case was adjourned.

Chemist Exonerated.

At the Kensington Town Hall, on May 25, Mr. C. Luxmoore Drew held an inquiry with reference to the death of the 12-months' old child of Elizabeth Bishop. The mother stated that a fortnight ago the baby had a wheezing on the chest, and as it was teething she went to a chemist, who gave her a powder for the baby, after which it appeared much better. On the day before the death she went to the doctor, and again next day, but he would not come without a fee, so she went again to the chemist, and he gave her a little cough-mixture, but the child died during the night.

Mr. William Phillips Thomas, chemist, 37 Golbourn Road, said he did not remember the mother coming to him for the powder, but remembered her coming and asking for a little cough-mixture for her baby, and he sold her 3*d.* worth. He did not consider he was prescribing. It was a simple stock-mixture of syrup of squills, honey, and ipecac. wine. Witness advised her to go to Dr. Conry, but she said she could not pay the fee, so witness then suggested she should go to the hospital.

The Coroner said he recognised the difficult position in which chemists were placed, but it certainly was prescribing. It was not as though a person came and asked for a certain quantity of syrup of squills; it was selling a mixture of which the seller alone knew the ingredients. Sometimes these simple mixtures contain drugs which are very dangerous. It was not, however, the danger of the medicine in this case, but the delay, as the mother admitted it saved her going in search of another doctor. Mr. Thomas had, however, done the best thing possible in the case, as he had advised her to take the child to the hospital for treatment.

Dr. Conry said he had made a *post-mortem* examination, and found the death due to pneumonia. This had evidently been going on for eight days. The medicine given by the chemist had not done any harm. He might have advised similar medicine.

The jury returned a verdict in accordance with the medical evidence.

CHEMISTS' GOLF COMPETITION.—The second competition this year for the "Gibson Handicap Medal" was played last week over the Braids course, and resulted as follows:—1st. James Stott, 89 + 4 = 93; 2nd. A. M. Stewart, 106 − 5 = 101; 3rd, D. N. Wylie, 106 − 4 = 102.

Local newspapers containing marked items of news interesting to the trade are always welcomed by the Editor.

Union Drug-contracts.

Messrs. Leslie & Co., Dublin, have been appointed contractors for the supply of drugs and medicines to the Midleton Union; Messrs. Thacker & Hoffe, chemists, Dublin, have been appointed contractors to the Claremorris Union; and Mr. J. F. Eggleston, chemist, Kanturk, to the Kanturk Union.

The Michelstown Guardians are unable to agree on their contractor. At their meeting last week, Dr. Hennessy said a comparison of prices in the tenders showed that the smaller houses were somewhat cheaper than the large manufacturing firms. Dr. O'Brien said if the contract were given to one of the small houses the medical officers would be brought into conflict with the contractor, as they would probably have to object to the quality of the medicines. He advised the reappointment of the Cork Chemical and Drug Company, which had given splendid satisfaction. Dr. Walsh favoured the Apothecaries' Hall. Dr. Hennessy was in favour of the Cork Company. In one of the very low tenders cod-liver oil was quoted at 1*s.* a gallon. Eventually the matter was adjourned.

Business Change.

The Kells Medical Hall Company (Limited) notify the opening of a new pharmacy at Farrell Street, Kells, under the management of Mr. Edward P. Magee, L.P.S.I., late of Grattan & Co., Belfast.

Sale of Prussic Acid in Belfast.

At an inquest held at Belfast on May 19 on a man named Patterson, who had committed suicide with prussic acid, it was ascertained that he had bought the poison from a chemist's assistant named Joseph King, who admitted he had not asked deceased, when getting the poison, to produce a witness to introduce him, as was required by the statute, nor did he himself know Patterson, as was also required by the law. To the question as to whether he was in the habit of selling poison to anyone who came into the shop and asked for it, he said he was not, but he thought Patterson a customer. The jury recommended that Joseph King should be cautioned to be more careful in selling poisonous drugs.

French News.

(*From our Paris Correspondent.*)

A French Savant of Merit has passed away in the person of M. Maurice Hovelacque, who died in Paris a few days ago at the early age of 40. His speciality was botany, and he particularly devoted himself to the anatomical study of fossil plants, in connection with which he was an acknowledged authority.

Nicolas Houel, Apothecary.—At the twenty-fifth annual meeting of the Paris Historical Society an interesting paper was read by M. Guiffrey, Director of the Gobelins Tapestry-works, describing the life and work of Nicolas Houel, a Parisian pharmacist of the sixteenth century. Houel was the founder of the "Jardins des Plantes" of Paris, for the cultivation of medicinal and other plants. He left a reputation as a philanthropist, and established various charitable institutions in Paris.

Fatal Hair-wash.—Last Sunday morning a serious accident occurred in Paris through imprudence in using a hair-wash composed of mineral essence near a lighted gas-jet. A Madame Laprété, residing at 85 Boulevard Voltaire, was washing her young daughter's hair with mineral essence in her kitchen quite near a gas-stove, which was alight. The essence caught fire, and both mother and daughter were badly burned, and were conveyed to the St. Louis Hospital in a precarious condition.

Curious Effect of a Remedy.—Dr. Huchard read a paper at the last meeting of the Paris Academy of Medicine on acetate of thallium, which was formerly advocated by Dr. Combemale, of Lille, as a medicament against profuse perspiration in certain cases of serious illness. It appears, however, that its useful influence is counterbalanced by the fact that it causes the hair to fall off with great rapidity. Dr. Huchard exhibited at the meeting several photographs of patients who had become quite bald in several days. He was consequently very emphatic against the use of the remedy.

Preserved Foods in France.—The Board of Trade have received through the Foreign Office a despatch from her Majesty's Ambassador at Paris announcing that it has been decided to suspend until next month the notice issued by the French Minister of Agriculture on March 30 last, to the effect that all importations into France of meats containing borax or boracic acid would be immediately prohibited. The result of this temporary suspension will be to allow time to import in most cases the consignments already stopped at the French ports, or on their way to France from Great Britain and Ireland.

The New Pharmacy Law.—The French Minister of Public Instruction has addressed the following circular to the directors of the various Schools of Pharmacy in France relative to one of the two articles of the new pharmacy law voted before the dissolution of the Chamber of Deputies last month:—"According to the terms of the law of April 19, 1898, pharmacists of the second class have henceforth the right to practise in any part of the territory of the Republic. Consequently candidates for that grade will no longer be required, as formerly, to state the department in which they propose to practise, and the mention of a department will no longer be put on the diploma." Thus the former somewhat irrational state of things, which bound the second-class pharmacists to one county or forced them to pass another examination if they wished to open a pharmacy elsewhere in France, is now a thing of the past.

Doctor of Pharmacy.—The announcement made at this month's meeting of the Paris Society of Pharmacy with regard to the innovation of a degree of Doctor of Pharmacy was based on an official decree of July 21, 1897, which gave the newly-instituted French Universities the right to confer "exclusively scientific titles"—*i.e.*, diplomas which, while certifying the scientific attainments of the candidate, confer no right to practise a profession in France. A bill recently posted on the notice-board at the Paris Superior School of Pharmacy states that a "Doctorate of Pharmacy of the University of Paris is hereby instituted." This is, therefore, simply an honorary degree. The conditions are, for Frenchmen, a "first-class" diploma; for foreigners, two certificates —(1) of chemical pharmacy and toxicology, (2) of galenical pharmacy and materia medica. Frenchmen and foreigners alike must put in one year's study at the Paris School of Pharmacy. The diplomas are to be signed by the members of the examining-jury, the Dean of the Faculty, and the President of the Council of the University.

A Phantom in a Pharmacy.—About 10 o'clock a few nights ago a pharmacist's assistant was comfortably ensconced in an arm-chair in the room behind the pharmacy in the rue de l'Abbé Grégoire, a quarter of Paris which recalls the bygone days of the "Three Musketeers." The proprietor of the pharmacy, M. Lorain, had gone to the theatre, and the assistant was alone. Suddenly a noise of broken glass and bottles reached him from the cellar. Supposing a thief had found his way below the assistant cocked his revolver, and went down to investigate, but could discover nothing. He returned to the pharmacy, and a few minutes later was amazed to see several bottles jump off the shelves and fall broken to the ground. This time he had no doubt the pharmacy was haunted, and he called in a policeman to get his testimony to this abnormal state of things. The representative of authority was incredulous enough to make a further search, which resulted in the discovery of a fine hedgehog on one of the shelves. This substantial phantom, the author of the trouble, was duly taken in charge by the *sergent de ville* with all formality.

The Pasteur Institute.—The recently-published annual report of the Pasteur Institute states that during the year 1897 the patients treated against rabies numbered 1,521. Of these two died before the treatment was completed, and six are known to have died afterwards. The cases under treatment are divided into three sections (1) patients bitten by animals suspected of rabies, (2) by those certified by a veterinary surgeon to have been mad, and (3) where the animal has been proved by experiments to have been mad. In the first section were 461 cases and no direct fatal result; in the second 918 cases and five deaths; in the third 461 patients and one death. Among the patients were 83 English, 33 from British India, and 1 from the United States. The mortality last year is calculated by the Institute officials as ·40 per cent. of the cases treated. This compares with ·30 per cent. last year, and ·22 out of 1,790 patients treated in 1892, and ·94 in 1886, which was the first year of the inoculations. There have been 20,166 persons treated since the Institute opened, of whom 96 have died.

Fatal Pharmacy.—M. Béréziat, the pharmacist whose assistant committed the fatal dispensing error previously mentioned, has been tried at the Tenth Correctional Tribunal, Paris. It was stated by the prosecution that the fatality occurred through carelessness on the part of the assistant in adding liquid ammonia to the medicine to be made up. Instead of counting the 25 drops ordered, he poured out the liquid, guessing the quantity, and, it was alleged, gave too much. The pharmacist's counsel raised the point that certain ingredients of the prescription, as written by the doctor, were not in the French Codex, but this was strongly opposed by the prosecution. It also transpired that the experts who had been named to determine the exact cause of death were not agreed that it was due to an overdose of ammonia. Judgment was deferred. M. Béréziat is not insured against dispensing accidents. At the final hearing a few days ago M. Béréziat was sentenced to pay a fine of 500f. (20*l.*). The evidence showed conclusively that the assistant had added an abnormal amount of ammonia; but as there was some doubt whether the child died from the overdose of ammonia or from meningitis, from which it was suffering, M. Béréziat was only fined for his assistant's error in dispensing.

Colonial and Foreign News.

Chinese Tea is in future to be carried straight from China by Irkutsk in Siberia to Moscow in railway-waggons lined with lead and hermetically sealed.

Professor Munyon made an LL.D.—Professor J. M. Munyon has had conferred upon him the degree and title of Doctor of Laws by the University of Tennessee in recognition of his scholarly attainments.

Standardising Paris Green.—It is proposed to require by law that all Paris green sold in New York State "shall be a chemical compound of acetic acid, arsenious oxide, and cupric oxide. All Paris green sold, offered or exposed for sale shall contain at least 50 per cent. of arsenious oxide."

Ceylon Tea in Germany.—Mr. Chas. Böhringer, who some years ago established a house at Colombo for the purpose of buying cinchona-bark, is now in Stuttgart, where he has opened several shops for the sale of Ceylon tea only. Mr. Böhringer anticipates a strong demand for this kind of tea in Southern Germany.

A British Chamber of Commerce has been formed at Smyrna, under the presidency of Mr. Cumberbatch, H.M. Consul, and several well-attended meetings have been held. The trade between the United Kingdom and Smyrna is an important one, and an institution of this kind ought to find there a useful sphere of activity.

Was it Coca-wine?—Mr. G. F. Seibert, a chemist at Iron Mountain, Mich., filled his 100,000th prescription in March last, and celebrated the event by presenting each of the local doctors with a bottle of wine, and to their wives a bottle of scent. Mr. Seibert's average of prescriptions comes out at eighteen per day, counting Sundays and holidays.

How to get Telephone-reforms.—Seventy chemists at Washington, U S.A., have given orders for their telephones to be taken away as a protest against the refusal of the telephone company to lower its rates and amend its too-restrictive regulations. Two hundred physicians of the city have intimated to the company that they are preparing to do likewise unless the reforms are carried out.

Italian Pharmacy.—The privilege system in regard to pharmacies has been in operation in Italy for some years, but is creating great dissatisfaction, and proposals are now under consideration for abolishing it. Those who hold privileges have paid for them, and they want compensation, which demand in the poverty-stricken condition of the national finances is a trifle overwhelming; but that may be got over by extending the privilege for a specified period in the next century.

Chemical Cargo. — The *Legislator* steamship left Liverpool for Cologne on February 3 with a cargo which included vitriol, collodion, benzin spirits, ammonia, potash chlorate, varnish, and phosphorus. On the voyage fire broke out, due, it is said, to the vitriol escaping and getting into contact with the phosphorus. The matter, which has been the subject of a trial at Liverpool, has also been investigated at Hamburg, where Dr. Dupré, on behalf of the British Board of Trade, gave evidence, and as the result of this inquiry more stringent regulations as to the carriage of chemicals, especially vitriol, in steamships are suggested.

Morphia for Opium. — The Customs Department in Rangoon state that morphia is being smuggled into Burmah from Calcutta on rather a large scale. In Rangoon opium can only be obtained from chemists who are specially licensed, and the licence only allows them to keep 32 oz. in stock. But Chinamen and Burmans have discovered that a very good imitation of smoking-opium can be made from morphia. One of the ingenious ways of smuggling opium was recently discovered by a clergyman who bought some tinned cheese in Rangoon, and found it to contain a large quantity of opium. The smuggler had evidently, for some reason, not taken his profit. Smugglers of opium and morphia in Burmah are now invariably imprisoned as well as fined.

U.S.A. and the Paris Exhibition.—The United States Congress has just voted a sum of $750,000 for the promotion of American interests at the Paris Exhibition. This is 50 per cent. more than the British Government has appropriated for the same purpose. A sum of $200,000 is to be made immediately available. A general commissioner is to be appointed at $8,000 per annum, an assistant commissioner at $6,000, a secretary at $4,500, and twelve experts at $3,000 per annum each. This compact commission, with the twelve serving only from 1899 to 1900 (eighteen months altogether), is a great curtailment of the original idea, which was a large commission. It will be interesting to compare the British Executive Commission with the American one when the time comes.

Zanzibar Produce.—The Director of the Agricultural Department at Dunga, Zanzibar, has issued his annual report for 1897, which contains interesting information regarding the cultivation of kola, cocoa, vanilla, Para rubber, cloves, &c. With reference to kola, we learn that the trees are planted 20 feet apart and bear fruit in four or five years, and the yield from each tree is 50 lbs. per annum, though in some exceptional cases a tree has been known to yield 150 lbs. Kola germinates freely and grows well, while the seed is cheap and easily procured. The product requires little preparation for the market, as it is merely placed in the sun to dry. The report states that owing to the large quantities of kolas that have been shipped from the West Indies the prices have been considerably reduced—*e g.*, in 1890 kolas were worth 2*s.* 9*d.* per lb.; in 1894, 1*s.* 3*d.*; while now they are worth less than 6*d.* per lb.

Artificial Honey.—The Criminal Court of Hamburg was engaged for two days last week in trying a case in which a merchant was charged with selling as natural honey a product which consisted of natural honey and glucose. The evidence showed that the defendant had been doing a very large trade in the article both as comb and table honey. In 1893 his output was 1,947 centners, and this had been increasing up to 1896, when the output amounted to 6,202 centners. The evidence showed that this German honey consisted in part of American honey, to which glucose, chemicals, and colouring-matter were added; and it was contended on defendant's behalf that the public like this artificial honey better than the real article. After evidence and display of much forensic skill on the part of counsel, the defendant was sentenced to three months' imprisonment, and to pay a fine of 1,500m.; and a fine of 800m., or eighty days' imprisonment, was imposed upon two persons who had sold the artificial honey.

South African News.

(*From our Correspondents.*)

A NATIVE DOCTOR has been sentenced at Cape Town to twelve months' hard for administering blue stone to another native who went to him because he felt ill. The patient died in two days. Prisoner told the Magistrate he always prescribed blue stone, as it was a medicine he had studied and could recommend.

BUSINESS CHANGES.—The premises in Commissioner Street, Johannesburg, recently vacated by Mr. Alexander Heymann, have been re-opened by a firm of Russian chemists. —Mr. A. Harris, late of Sheffield, England, has opened the Imperial Pharmacy near the Old Royal Theatre, Commissioner Street, Johannesburg.

CRICKET IN NATAL.—A cricket match was played at the Durban Oval on Easter Monday between teams representing chemists and produce dealers. The game proved exceedingly enjoyable, especially for the chemists, who licked the grocers by an innings and 78 runs. For the chemists Mr. A. J. Atfield topped the scoring with 71, Mr. C. P. Harvey came next with 59, and Dr. Howden made 38. Messrs. Inman, Easterbrook and Sherrard were deadly pharmaceutical bowlers.

FEVER.—This has been a very bad season for malarial fever in the country north from Gaberones to Bulawayo. Late rains and unburied or insufficiently-buried rinderpest carcasses are no doubt responsible for the severity of the epidemic. Warburg's tincture and quinine tabloids have been in great demand. The Cape Government Railway had to extemporise a hospital at Mafeking, which for the last three months has seldom had less than a dozen cases in, fresh patients coming in almost daily from the up-country sidings and stations.

ANOTHER UITLANDER PETITION.—The chemists of Johannesburg have just sent to President Kruger a petition praying for the removal of the recently-imposed duty of 1*s.* per dozen on all dispensing-bottles over the 6-oz. size, which is an undoubted hardship. Should the petition meet with success the chemists will next try to get a reduction on the enormous duty imposed on printed matter. The need for this is shown by the following case. A firm ordered from England some circulars and labels for a special toilet-preparation which work could not be printed in the Transvaal. The home cost was under 6*l.*, the duty on passing through Cape Colony was 12*s.* but the Transvaal duty amounted to over 5*l.*, and this just because someone has been favoured with a printing-concession.

AMERICA TO THE CAPE.—A new line of steamers between New York and South and East African ports, reducing freights on general cargo 25 per cent., and on "specials" 2*s.* 6*d.* and 5*s.* to Table Bay and coast ports respectively, is about to be started by Messrs. Wm. Peabody & Co., New York. Their agents in Cape Town state that the first vessel will sail as soon as the war cloud disappears. Space in vessels is being applied for freely, and a quantity of cargo is waiting shipment at New York. The Union Steamship Company (Limited), agents for the Union-Clan line at Cape Town, are unable to say what action they will take in the matter. It may, however, be taken for granted that they will meet competition. The Americans can ship from New York to any African port much cheaper than we can. It is to be remembered also that the controllers of both the Union-Clan and Afro-American are British shipowners running their steamers in the Cape trade.

Australian Federation.

PARTICULARS are given in the *Chemist & Druggist of Australasia* for April of the finance and trade provisions contained in the Federal Constitution Bill which was adopted by the Australasian Federal Constitution Convention held at Melbourne on March 16. The objects of the Bill are to establish a commonwealth of the colonies in regard to, *inter alia*, trade and commerce with other countries, and among the States [of the Commonwealth], taxation, bounties, and social and administrative matters generally, including patents, trade-marks, &c. It is provided that Customs and Excise should be transferred to the Commonwealth as soon as it is established, that uniform rates of Customs should be imposed within two years thereafter, and provision is made for the appropriation of Customs revenue until that consummation. Thereafter the imposition of uniform Customs duties will be the exclusive right of the Commonwealth Parliament, but Western Australia is to have five years' grace after the adoption of uniform duties to impose duties on goods imported directly into that State and not through other States of the Commonwealth, but the duty so imposed must not exceed a stated amount. The Editor of the *C.D.A.* asked the opinions of a few leading wholesalers on the proposals, and the following are extracts from replies:—

The Hon. F. S. Grimwade, M.L.C., of Felton, Grimwade & Co.:—"When the Commonwealth of Australia becomes an accomplished fact, Australia will progress by leaps and bounds. It will take a not inconsiderable place amongst the nations of the world, and retail trade, as well as country storekeepers' trade, must be benefited by the general improvement that, I believe, will take place in trade. So far as local manufactures are concerned, we shall have the whole of Australia to trade in."

Mr. F. Kemp, managing director of the Australian Drug Company (Limited), Sydney:—"I am in favour of a federated Australia and inter-colonial free-trade, but I do not see that either the wholesale or retail trade would benefit by the present scheme of federation from a commercial standpoint. It simply means additional taxation for each member of the community, without any corresponding advantage in profitable business or increased salaries."

A. M. Bickford & Sons, Adelaide:—"We consider Australia federated will become one of the nations of the world. Federation will have a wholesome effect on trade generally throughout every colony, and manufacturers as a rule are bound to benefit."

The Federal tariff is a matter which excites much interest. While the Federal Government depends upon Customs and Excise for its revenue, and must raise something like six million pounds, the tariff may be either protectionist or free-trade. Mr. Coghlan, the Government Statistician of New South Wales, has shown that on the basis of the figures of four years preceding 1896, an average duty of 12¼ per cent. must be imposed on imports, exclusive of narcotics and stimulants, from which a much higher revenue is now obtained. This 12¼ per cent. might be raised by leaving the majority of articles of consumption free, and fixing heavy taxes on luxuries, but there are other directions in which duties could be imposed; but this is a matter which the Bill deals with only marginally, and it is a wide area that has to be filled in.

THE FELLOWS of the Royal College of Physicians of England are to have a special gown to wear on grand occasions.

"'PHARMACEUTICAL FORMULAS' is a splendid work. It is of inestimable value, and every chemist and druggist who wishes to be 'up to date,' and who has the interests of those around him at heart, should secure a copy at once."—*Mr. George Nelmes (Liverpool).*

CHEMISTS AND THE B.P.—Chemists are certainly more interested in this work than medical men, because a chemist must be in a position to supply any of the medicines and preparations contained in the book, must make these preparations strictly in accordance with the formulæ laid down, so we are rather surprised that in the production of this book pharmaceutical chemists are only indirectly consulted. A medical man can carry out an excellent practice and not prescribe a single medicine or preparation contained in this Pharmacopœia.—*The Scalpel.*

Legal Reports.

THE PHARMACY ACT.

Unregistered Sellers of Poison.

At Luton County Court, on May 24, before Sir A. G. Marten, Q.C., Mrs. Ellen Dormer, a dealer in oils and colours, Waller Street, Luton, was sued by the Council of the Pharmaceutical Society for 5*l.*, the amount of the penalty incurred by keeping an open shop on February 28, 1898, for retailing, dispensing, and compounding of poisons—namely, oxalic acid—contrary to the Pharmacy Act of 1868. In another case Henry Thornton and Frederick Saunders, trading as Goldsmith & Co., oil and colour men, 1 Market Hill, Luton, were implicated in a like offence on the same date. Mr. T. R. Grey appeared to prosecute, while neither of the defendants were represented by counsel.

Mr. Grey, having explained the objects for which the Pharmacy Act was passed, said that on the parcels purchased from the defendants there was neither name nor address of the seller written on the packets. It was the duty of the Pharmaceutical Society to see that the Pharmacy Act was not infringed, and having received a complaint the Council of the Society instructed one of its inspectors to visit Luton, with the result that these actions were taken.

Mr. John Partridge, of Brixton, London, proved receiving instructions from the Council of the Pharmaceutical Society to visit Luton, and to go to certain shops. He did so, and first called at Dormer's in Waller Street, where he purchased a ¼ lb. of oxalic acid for 2*d.*, subsequently he went to Messrs. Goldsmith & Co., and there bought 1 lb. of the acid for 8*d.* On each of the packets was a printed label bearing the word "Poison," but on neither of the packets was there the name or address of the seller. In accordance with his instructions he handed the parcels to Mr. Eastes.

Mr. Ernest John Eastes, F.I.C., said he was analyst to the Pharmaceutical Society. He found that the contents of the parcels received from the previous witness were oxalic acid.

Mr. William Henry Dormer represented his mother, who owned the business, pleaded ignorance of the law as an excuse. He had been an assistant in Luton for fourteen years, and had always sold oxalic acid, and, in doing so, he did not know he was doing anything wrong. The acid was being sold all over the town by unqualified men.

Mr. Henry Thornton, who appeared and represented his partner (Mr. F. Saunders) said: The acid is used in Luton for the straw-hat trade. It has been sold in the town for the last forty or fifty years, and we never had any complaint before. When we received the letter from the Pharmaceutical Society I went to the Society's offices and saw Mr. Bremridge, and told him about the case, explaining the whole of the circumstances to him. He told me to write to the Society's solicitors, which I did, and before anything further was done, the matter would have to go before the committee of the Society, and I should be informed of its decision, but I received no notice whatever until I got the summons. In the meantime we have not been selling the acid. Each oil-shop in the town sells oxalic acid, for it is used for manufacturing purposes in connection with the straw-hat trade.

His Honour informed the defendants that ignorance was no excuse. The cases had been clearly proved, and judgment would be given for the penalties claimed with costs.

Mr. Grey mentioned the case of Messrs. J. & T. Seddon, oil and colour men, 11 Waller Street. They had paid the penalty of 5*l.* with 10*s.* for costs; but inasmuch as the money was not paid five clear days before those proceedings were taken, he must ask that they be ordered to pay their proportionate share of the costs.

The Judge: I make an order that the costs be paid by Messrs. J. & T. Seddon.

SALE OF FOOD AND DRUGS ACT.

Lime-water—Is it a "Perishable Article"?

At the Thames Police Court, on May 20, Mr. W. S. Glyn-Jones, of Leonard House, Aveley, Essex, appeared to answer a summons charging him with selling lime-water adulterated with 85 per cent. of water. Mr. George Hay Young prosecuted on behalf of the Poplar District Board of Works, and said if the offence was proved it was clear the lime-water would not be of much use for invalids or infants.

Mr. J. Bullock, sanitary inspector, said that on April 29 he went to 159 East India Dock Road, a chemist's shop belonging to the defendant, and was served with a pint of lime-water. He divided the sample into three parts, one of which he left with the person who served him.

Asked by the Magistrate (Mr. Dickinson) whether he had anything to say, Mr. Glyn-Jones asked to be allowed to examine the analyst's certificate. This was handed to him, and, after perusal, defendant proceeded to cross-examine the inspector.

Do you know much about lime-water?—Oh, yes.

Then you are aware that it is liable to change?—Yes, I admit that.

Defendant, on this admission, told the Magistrate that the analyst's certificate was not in order, as the Act required that "in the case of a certificate regarding milk, butter, *or any article liable to decomposition* the analyst shall specially report whether any change had taken place in the constitution of the article that would interfere with the analysis." The analyst had not in this case so reported. He had evidence in court to prove that lime-water was an article liable to decomposition, and the sample submitted to the analyst was probably quite different to that supplied by defendant to the inspector. Lime-water was, indeed, so liable to decompose that a syphon was used for drawing it off in order to avoid contact with air; and, moreover, the bottles containing the lime-water ought to be full, and in this case a full bottle was sold. The bottle which was left with his assistant was only half full, and the same applied to the other two of the three divided portions. His assistant would prove that the lime-water as supplied by him contained the requisite quantity of lime, and he contended that the lime-water examined by the analyst was, through the handling of the inspector, a totally different article.

The Inspector, in reply to the Magistrate, admitted that the bottle he received was full.

The Magistrate: What have you to say to that, Mr. Young?

Mr. Young: We contend, sir, that it is not a perishable article.

The Magistrate: The Act does not say "perishable article"; it says "liable to decomposition."

Mr. Young: Well, it is not liable to decomposition.

The Magistrate: But your witness has just said that it was.

Mr. Young: But he does not know anything about it, sir.

The Magistrate: But he ought to know something about it. What does he mean by bringing a man here and charging him with an offence if he does not know anything about it? (To Mr. Glyn-Jones) I will adjourn the case for a week, and if in that time you can prove that it is such an article as you state I will allow you one guinea costs.

THE ANISOLINE-DYES APPEAL.—JUDGMENT.

Judgment was delivered by the Court of Appeal on Wednesday in the case of the Badische Anilin und Soda Fabrik *v.* La Société Cheminques des Usines, &c. This was plaintiffs' appeal from an exhaustive judgment by Mr. Justice Wills, at the trial in the Queen's Bench Division, on the one point decided against them—viz., that the description of one of their processes in the specification for letters patent was insufficient. The arguments were reported in The Chemist and Druggist of May 6, counsel for the appellants being Mr. Cripps, Q.C., M.P., Mr. Roger Wallace, Q.C., Mr. W. L. Lawson, and Mr. J. G. Graham; and for the respondents Mr. Fletcher Moulton, Q.C., Mr. Bousfield, Q.C., and Mr. A. Colefax.

Lord Justice A. L. Smith said this appeal raised two short points in a very long case. The first was the true construction of the words in the plaintiffs' specification: "Heat 1 part of di-ether hydro-chlorate dissolved in 4 parts of ethol or methol alkyle in an autoclave." The circumstances under which the case arose were unique. This patent for a rhodamine dye was the subject-matter of two trials, lasting twenty-eight days. Mr. Justice Wills found on all the original issues raised in the action against the defendants, except that towards the close of the trial a new, and until then undiscovered, fact arose which affected plaintiffs' specification of Example 2 of their patent. A rhodamine ester, it was argued, had been made before, but admittedly not a pure product like that of the plaintiffs', which contained 98 or 99 per cent. of purity, and it was for a pure product that they claimed in their specification. Defendants, having tried the experiment in an enamel-lined autoclave, declared that it would only produce a product with 60 per cent. of impurity in it, which they had made before under their earlier Monnet's patent. In order to throw some light on these conflicting results, the trial was adjourned for further experiments to be made by the distinguished chemists whose evidence was called, in the course of which they alighted upon the discovery that iron was necessary in the process to bring out the product of purity for which they claimed, the fact being that the iron of the autoclave took up the free hydrochloric acid which was liberated in the process, and the presence of which would otherwise have spoiled the product. Defendants then at once took the somewhat obvious objection that the plaintiffs' specification was insufficient, as it gave only two of the ingredients and said nothing about the third—viz., iron—and on this point Mr. Justice Wills found that the specification was insufficient. By way of answer to this formidable point, plaintiffs set up that a direction to heat and mix in an autoclave was sufficient indication of an iron autoclave, because they said an iron autoclave was the one commonly used in such processes unless express instructions were given to the contrary. With Mr. Moulton's contention that it was an idea altogether novel that the vessel in which ingredients were to be worked up was to be taken as one of the necessary ingredients the Lord Justice altogether agreed; but if Dr. Bernthsen, the inventor, had specified for the use of an iron autoclave, thus indicating that an iron vessel was essential, though he might not have known the reason, that, in his opinion, would be supplied. But this the specification had not done. Autoclaves both of plain iron and with an enamelled lining were in frequent use in factories for the making of dyes ;| that being established in evidence, he considered that the finding of Mr. Justice Wills was right, without needing to follow the subsequent arguments into detail. By their plain and simple meaning the words in this specification "heat in an autoclave," meant any autoclave, being of sufficient strength, customarily used for this class of dye-making, and the Lord Justice could not hold that it meant an autoclave composed solely of iron. It was evident that all the distinguished chemists—Dr. Bernthsen, Professor Dewar, Dr. Adolf Liebmann, and others—who made experiments in this case did not know that iron was an essential element, because they each attempted|to carry out the specification in closed glass tubes, and failed. Further, it appeared plain that chemists at dye-works working on this specification might take the more expensive enamelled-iron autoclave, and would never get back to the cheaper iron autoclave, because, having failed with the best vessel at their command, they would not turn to the inferior one. On the question how far the purity of the product affected the patent, that was not an issue on this appeal, because plaintiffs themselves had specified for a pure product, and had accepted the finding of Mr. Justice Wills on that point. The judgment would consequently be that the appeal be dismissed, with costs.

Lords Justices Chitty and Vaughan Williams concurred.

ROYAL BAKING-POWDER.

In the Court of Appeal on May 25, before the Master of the Rolls and Lords Justices Rigby and Collins, the Royal Baking-powder Company appealed from an order of Mr. Justice Romer dismissing an application to have expunged from the register a trade-mark of Wright, Crossley & Co., who had used the trade-mark, "Wright, Crossley & Co." in conjunction with "Royal Baking-powder." Mr. Justice Romer held that whether the respondents had a proper trade-mark or not they were entitled to sell their goods under their own name, including baking-powder, the applicants were not persons aggrieved, and he dismissed the application to expunge. The Court of Appeal, without calling upon the respondents' counsel, dismissed the appeal with costs, the Master of the Rolls observing that he could not see in what conceivable way it could be made out that the Royal Baking-powder Company was aggrieved by the registration of the trade-mark in question. To say they were aggrieved was arrant nonsense. The was no substance whatever in the application.

"EIFFEL TOWER" LEMONADE.

In the Court of Appeal, on Tuesday, before the Master of the Rolls and Lords Justices Rigby and Collins, the plaintiff in the case of Clarke v. Edward Sharpe & Co. appealed from an order of Mr. Justice Byrne dismissing an action which he had brought against the defendants to restrain them from so labelling packets of lemonade-powder as to deceive and to lead to the belief that defendants' powder was of the plaintiff's manufacture. It was stated that the plaintiff had carried on business at Maidstone under the style of Foster Clarke & Co., and an important part of his business consisted of the manufacture and sale of a powder for the making of lemonade, which was called "Eiffel Tower" lemonade. He alleged that the defendants were putting upon the market a powder for lemonade in packets, on which were labels so closely resembling the plaintiff's as to deceive. The defendants disclaimed any intention of deceit. During the opening of the appellant's case the Master of the Rolls suggested that the matter was one which ought to be settled, it being only a question of costs. Counsel on both sides having seen their Lordships in their private room, Mr. Eve, for the plaintiff, said he was glad to say that, thanks to their Lordships' intervention, the parties had arranged terms. He merely desired to state, on behalf of the plaintiff, that he accepted the defendants' statement that they did not copy the label in question, but arrived at it independently.

The Master of the Rolls expressed his satisfaction with the course that had been adopted.

THE WEIGHTS AND MEASURES ACT.

Mr. G. J. B. Woolley, chemist, Carlton Street, Leicester, was charged at the Borough Police Court, on May 23, with having in his possession for use five unjust weights on May 6. Mr. Minns, inspector of weights and measures, said he visited defendant's shop in Oxford Street, and tested the weights. Out of a total of 3 lbs. 14 oz. of weights tested there was a deficiency of 10½ dr. They were seized and brought away. Mr. Barnett, who appeared for defendant, said he would take the inspector's word as to the weights. He desired, however, to explain that neither Mr. Woolley nor his manager, Mr. Marfitt, had any idea that the weights were short. It was simply inadvertence. The weights had been cleaned with oxalic acid, which had worn them away. The Bench inflicted a fine of 2*l.* and costs.

COUNTY COURT CASES.

Chemist and Dentist.

At Barnsley County Court, on May 19, Thomas Hirst, miner, sued Arthur Oglesby, chemist, druggist, and surgeon-dentist, to recover 10*l.* as damages for loss sustained through the alleged unskilful extraction of a tooth on January 26 last. Plaintiff's case was that he had a tooth drawn by defendant's assistant, Mr. McKenzie, L.D.S. Edin., who in extracting the tooth broke the jaw, leaving a piece of bone hanging from it. He called McKenzie's attention to this at the time, and was told it would be all right in a day or two. It became very bad the next day. Mr. Pearce, surgeon, took away the piece of bone, and an abscess followed, so that plaintiff was unable to work for seventeen days. Mr. Pearce proved that he removed the piece of jawbone (alveolus) next day. The defence was that the plaintiff did not call Mr. McKenzie's attention to the matter at the time nor subsequently; that the bone was not fractured, but the alveolus, which was fractured whenever a tooth was extracted, and was usually absorbed by the tissues, but sometimes worked itself out. Dr. Sadler said what had occurred in this case might occur in the most skilfully-conducted operation. It would be impossible twenty-four hours afterwards to say whether the alveolus had been out at the time of the extraction or whether it had worked itself out in the interval. Verdict for defendant, with costs.

AGENTS OR BUYERS?

IN Perth Sheriff Court, on May 24, the North Lincolnshire Drug Company (Limited), Grimsby, sued Messrs. James Marshall & Sons, Curruch, Crieff, for payment of the price of two dozen of the pursuers' "celebrated cattle-oils," sent to the defenders on July 16, 1897.

Mr. John A. Stewart, solicitor, Perth, for the defenders, denied liability on the ground that defenders were in the position of agents for the pursuers in the transaction in question, and had not bought the goods sued for. In support of this contention Mr. Stewart produced the company's bills bearing that the defenders were their "sole agents in Crieff," and explained that the goods had lain for several months in the defenders' hands, and had turned out to be unsaleable, and they had accordingly returned them to the pursuers, who had first approached them to act as their agents.

Mr. McNab, solicitor, on behalf of the pursuers, argued that from the correspondence the defenders' firm was in the position of a purchasing agent, and therefore bound to pay for the goods whether they sold them or not.

The Sheriff said he was a little dubious of these companies, who got agents and then sent them a quantity of stuff to sell. It was a sort of arrangement got up by firms who are desirous of pushing their own articles by means of agents, whose consent to the arrangement was sometimes not even asked.

Holding that the defenders were agents, and agents alone, his Lordship granted absolvitor, and found the pursuers liable in expenses.

Bankruptcies and Failures.

Re JOHN F. HARSTON, High Street, Lincoln, Chemist and Druggist.

AT a meeting of creditors in this failure, held on May 18, the statement of accounts showed liabilities 653*l.* 5*s.*, and assets valued at 465*l.* The value of the household furniture was not included in the value of the assets, as the creditors had decided to allow Mr. Harston the whole or part of the furniture when it was seen how the remainder of the estate realised. The creditors agreed to a proposition to the effect that the estate should be wound up under a deed of assignment, with Mr. John L. Rayner as trustee and a committee of inspection.

Gazette.

PARTNERSHIPS DISSOLVED.

Gourlay, R., and **Law, J.,** under the style of Gourlay & Law, Oldham, physicians and surgeons.

Patterson, W., Fowle, W. B., and **Spencelayh, H.,** under the style of Patterson & Co., Turner's Road, Burdett Road, Bow, E., cork-cutters, cork-manufacturers, and merchants.

THE BANKRUPTCY ACTS, 1883 AND 1890.

RECEIVING ORDER.

Filmer, George Budds, Blackpool, carrying on business in co-partnership with Arthur Ryden under the style of Filmer & Co., mineral-water manufacturer.

ADJUDICATIONS.

Beaumont, Walter (trading as Jonas Beaumont), Halifax, manufacturing chemist.

Flack, Charles William, Stevenage, chemist and druggist.

IN the Birmingham Court of Bankruptcy on May 19 Mr. Registrar Glaisyer made a receiving order in the matter of Gilbert Thonger, of Harborne, chemist, and lately carrying on business at Medical Hall, Hagley Road, Edgbaston.

"'PHARMACEUTICAL FORMULAS' is far and away the best book of its kind, and should be of service to both the wholesale and retail man."—*Mr. Harold W. Harrie, F.C.S.*

Deeds of Arrangement.

Harston, John Frederick, 214 High Street, Lincoln, chemist and druggist. Trustee, John L. Rayner, Lincoln, Sheriff's officer. Dated May 18; filed, May 21. Secured creditors, 215*l.*; liabilities unsecured, 653*l.* 5*s.*; estimated net assets, 505*l.* The following are scheduled as creditors:—

	£	s.	d.
Bainbridge & Sons, Lincoln	20	0	0
Co-operative Stores, Lincoln	10	0	0
Ellis, Son & Parramore, Sheffield	11	0	0
Raimes & Co., York	165	0	0
Sissons Brothers & Co. (Limited), Hull	36	0	0
Whitton & Ashley, Lincoln	11	0	0
Bankers' claims	195	0	0

Vickers, Arthur Langdon, 195 and 197 Princess Street, Manchester, druggists' sundryman. Trustee, Edmund H. Pilkington, 62 Market Street, Manchester, accountant. Dated, May 17; filed, May 19. Liabilities unsecured, 1,083*l.* 9*s.* 4*d.*; estimated net assets, 100*l.* The following are scheduled as creditors:—

	£	s.	d.
Bletcher, —, Huddersfield	17	0	0
Davies, T. W., Hulme	15	0	0
Gibson, —, Liverpool	14	0	0
Kidd, —, Dundee	22	0	0
Leeson, —, Manchester	12	0	0
Mackintosh, —, Halifax	18	0	0
Manchester Vinegar Company, Manchester	12	0	0
Marsden & Kay, Preston	12	0	0
Morrish, —, Liverpool	28	0	0
Petremant, —, Manchester	16	0	0
Pharmaceutical Society, London	16	0	0
Trueman, —, Manchester	45	0	0
United Alkali Company, Runcorn	22	0	0
Vickers, S. Elizabeth, Manchester	719	0	0

New Companies and Company News.

KALANTAROFF (BAKU) OIL COMPANY (LIMITED).—Capital 50,000*l.*, in 1*l.* shares. Objects: To enter into an agreement with John W. Hughes, and to carry on the business of producers, refiners, and distributors of petroleum and petroleum products, merchants, refiners, smelters, chemists, storekeepers, &c.

GLENREEVE & CO. (LIMITED). — Capital 5,000*l.*, in 1*l.* shares. Objects: To acquire Patent No. 6 640 for "improvements in night-lights," and to carry on the business of night-light manufacturers, wholesale, retail, and manufacturing chemists, candle-makers, and soap-manufacturers. Registered office, 19A Gurley Street, Bromley-by-Bow, E.

CEROX (LIMITED). — Capital 5,000*l.*, in 1*l.* shares. Objects: To acquire the business of cereal-extract manufacturers carried on at Dace Road, Old Ford, E., and to carry on the business of chemical-manufacturers, yeast-makers, distillers, malt-extract makers, chemists, druggists, patent-medicine vendors, herbalists, druggists' sundriesmen &c. Registered office, 84 Chancery Lane, W.C.

"VOLENITE" (LIMITED).—Capital 80,000*l.*, in 1*l.* shares. To acquire the secret process and patent-rights for the manufacture of "Volenite," to enter into an agreement with Harry Bennett, and to manufacture, sell, and deal in oils, guano, volenite, vulcanite, railway-sleepers, road and street paving, steps, stair-treads, pulley and friction wheels, clutch-couplings, electrical switchboards, magnet ends for dynamos, insulating-material, electric motors, accumulator cells, dry cells, &c. The first directors are the Right Hon. Baron Lurgan, Francis B. Jameson, J. Roper Parkington, and George V. Sims. Qualification, 250*l.* Remuneration, 200*l.* each per annum, and 250*l.* for the chairman.

BRITANNIA WORKS COMPANY (1898) (LIMITED).—Capital 380,000*l.*, in 1*l.* shares (190,000 6*l.* per cent. cumulative preference). Objects: To acquire the business of the Britannia Works Company (Limited), registered in 1891, to enter into an agreement with F. W. Hull, and to carry on the business of manufacturers of and dealers in dry plates, papers and films for photographic purposes, photographers, photographic printers, chemists, druggists, &c. The first directors are the Earl of Crawford (chairman), Major-General G. F. Blake (deputy-chairman), Charles J. Cox, Edward B. Knobel, Thomas Hughes, and John Howson. Qualification, 250*l.* Remuneration, 400*l.* each per annum, with 700*l.* for the chairman and 500*l.* for the deputy-chairman.

Ashton & Parsons (Limited).—Capital 20,000*l.*, in 1*l.* shares (10,000 6*l.* per cent. cumulative preference). Objects: To acquire the business carried on in London by George H. L. Parsons and Herbert J. F. Parsons as "Ashton & Parsons," and to carry on the business of manufacturers & wholesale and retail vendors of homœopathic, allopathic and patent medicines and preparations, medical practitioners, wholesale and retail chemists, druggists, druggists' sundriesmen, &c. The first subscribers (each with one share) are:—G. H. L. Parsons and H. J. F. Parsons, homœopathic-medicine manufacturers, of 17 Farringdon Road, E.C.; Mrs. Ruth Parsons, Miss N. Bridges, and Miss M. A. Parsons, 174 Selhurst Road, South Norwood; Mrs. G. H. L. Parsons, 51 Barrow Road, Streatham; Mrs. H. J. F. Parsons, 59 Barrow Road, Streatham, S.W. The first directors (to number not fewer than two nor more than five) are George H. L. Parsons and Herbert J. F. Parsons. Qualification, 50 shares. Remuneration, as the company may decide.

Wilsons (Limited).—Capital 9.000*l.*, in 5*l.* shares. Objects: To adopt an agreement with John H. Wilson, and an agreement with Mrs. Elizabeth Wilson, J. H. Wilson, and Mrs. Anne Griffiths, and to carry on the business of chemists, druggists, drysalters, oil and colour men, patent-medicine vendors, &c. The first subscribers (each with one share) are:—John H. Wilson, The Knowle, Harrogate, pharmaceutical chemist; Wm. Gilmour, James Street, Harrogate, bank manager; Edward Standing, Franklin Road, Harrogate, grocer; Arthur W. Wood, Ash Grove, Harrogate, pharmaceutical chemist; John F. Royce, Station Square, Harrogate, estate agent; Edwin Raworth, Station Bridge, Harrogate, solicitor; Edwin Bown, Franklin Road, gentleman. The first directors are John H. Wilson, William Gilmour, Edward Standing, and Arthur W. Wood. Qualification 200*l.* Remuneration, 1*l.* each per Board-meeting attended, with a maximum of 20*l.* each per annum. Registered office, 40 James Street, Harrogate.

Chance & Hunt (Limited).—This firm, which is a combination of the Oldbury Alkali Company (Limited) (formerly Chance Brothers), chemical and cement manufacturers, Oldbury, and of W. Hunt & Sons, chemical-manufacturers, Leabrook, Wednesbury, have offered 120,000 4 per cent. first debentures at 102*l.* The assets securing the debentures are valued at 314,754*l.*, and the average yearly profits are said to be sufficient to pay the interest on these debentures five times over.

Fuller's Earth Union (Limited).—The annual meeting of this company, whose works are at Bath and Nutfield (Surrey), was held at Winchester House, London, on Tuesday. Mr. S. Stanley Brown, who presided, moved the adoption of the report and accounts, and noted that the expansion of trade which had been foreshadowed at the last meeting had been realised in an even more marked degree than in the preceding year. After making allowance for bad and doubtful debts and depreciation, a balance of 3,807*l* remained, and a dividend at the rate of 3 per cent. per annum was recommended, carrying forward 1,616*l.* to next year's account. The report having been adopted, an extraordinary meeting followed, at which resolutions were passed authorising the directors to carry out a scheme for making the capital of the company in some measure represent its present value.

Boots, Cash Chemists (Western) (Limited) are offering 27,000 1*l.* 6 per cent. preference shares at a premium of 2*s.* per share. The prospectus states that since September 30, 1896, when the company took over the business, the result of the trading had been very satisfactory, the last year's profits being considerably more than the amount required for preference dividends up to date, so that the vendor's guarantee has not been called into requisition. New branches have been opened, and the premises occupied in Swansea, with adjoining premises, forming together a very valuable property, which will afford room for a commodious establishment, have been acquired for 3,500*l.* It is intended to add the premiums on this issue of shares to the reserve fund, which now stands at 1,600*l.* The sum of 2,900*l.* has been set aside for depreciation, and 1,070*l.* expended in repairs.

A. J. White (Limited).—In their first annual report, for the year ending March 31, 1898, the directors state that after providing for all expenses, including the managing director's remuneration and the directors' fees, there is a net profit of 88,988*l.* 9*s.* 6*d.*, which, after payment of 6 per cent. on the preference shares, leaves sufficient to pay 5 per cent., or 1*s.* per share, on the ordinary shares, making, with the two interim dividends already paid, a total dividend on the ordinary shares at the rate of 10 per cent. per annum from the date of payment of the respective instalments. The directors propose to set apart 5,000*l.* as the nucleus of a reserve fund, and to carry forward 11,773*l.* 4*s.* Under the articles of association the directors are entitled to 25 per cent. of the net profits after 10 per cent. has been distributed to the ordinary shareholders. In order, however, to assist in the establishment of the reserve fund the directors have unanimously decided to waive their right to this payment in respect of the past year's working. The capital of the company is 1,000,000*l.*, half of which is in 6 per cent. preference and half in ordinary shares. The meeting of the shareholders is called for June 2, at 3 P.M., at the Memorial Hall, E.C.

The Ulster Chemists (Limited).—The statutory meeting was held in the Imperial Hotel, Belfast, on May 20. Mr. Samuel Gibson, managing director, presided, and said the future appeared very bright and the directors had every reason to believe that at the end of the financial year the balance-sheet would be satisfactory. They had had much hard work in combining the working of the branches, but he was pleased to say this had been done, and everything was going smoothly. The directors were devoting their attention to tenders for union and other contracts, and although the company had only been in existence for so short a time, they had succeeded in obtaining contracts which would prove remunerative to the company. With regard to the saving which was to be expected from buying in large quantities, the directors were satisfied that the statements made by them would be realised, and he did not think that any shareholder would have cause to regret having invested capital in the company. Several shareholders expressed confidence in the company, and a vote of thanks was passed to the chairman. Mr. Gibson, responding, said the directors had done everything possible, and would not relax their efforts. He also stated that the dividend on the 6 per cent. preference shares for the period ended May 31 would be paid early in June.

Trade Notes.

Messrs. Ayrton & Saunders advertised last week a series of cheap "bijou sprays" and Delvoix's Cologne aux Fleurs, which they recommended as a suitable perfume for use with the sprays. They wish us to state that by an error (of theirs) the perfume was quoted in "¾-oz. bottles"; it should have been in 4-oz. bottles. The sprays, one of which they send us, are a cheap and attractive line.

Notes on the New B.P.—Messrs. C. J. Hewlett & Son, Charlotte Street, E.C., have published, and are circulating to their clients, a 24-page pamphlet written by Mr. E. J. Millard, F.C.S. It consists of short paragraphs chiefly explaining the changes and novelties, to which are added various tables, such as one dealing with the dilution of alcohol, another giving the strength, menstruum, method of preparation, and dose of each B.P. tincture, and one on ointments. The notes are concise, and the get-up of the pamphlet attractive.

The "Everfast" Toothbrush.—For American and Canadian trade the "Everfast" toothbrush is a novelty which deserves attention. The construction of the brush has been patented by the manufacturers, Messrs. R. Addis &

Son, London Fields, N.E. The brush is peculiar in being double-fastened. Each longitudinal row of bristles is secured and cemented in the familiar way, and, in addition, each cross row of bristles is secured by means of cement introduced through holes drilled through the sides, so that the brushes wear down to the bone, and give the user much satisfaction. The brushes can be obtained from all sundries houses.

Tanglefoot.—This American fly-paper has become a favourite in this country as well as in the British colonies, and the importers, the Albastine Company (Limited), Church Street, S.W., have now completed their arrangements for the coming season. We described the paper last year, but may recall the fact that the sticky composition is spread within a low broad rampart of wax upon Manilla paper, and upon the top a second sheet is placed, thus forming a double sheet, in which manner they are sold flat. There are two sizes, and the profit to wholesaler and retailer is tempting. The company offer a liberal supply of attractive showcards and lithographed handbills, and for particulars in regard to these and the trade terms reference should be made to the company at the above address. "Tanglefoot" is stocked by the leading sundries houses.

Newbery's Catalogue for 1898 has just been issued. It is a notable volume containing over 750 pages (including advertisements). Druggists' sundries occupy nearly half the book. The rest is a wonderful list of proprietary goods. The whole of it has been reset from new type. The Remarks on the Medicine Duty have been much extended. Messrs. Newbery have always been keen, but fair critics of Somerset House policy, and the article in this issue of their catalogue is the fullest they have published. It will greatly interest chemists who have concerned themselves with the subject, and the advice offered seems invariably sound. Another feature of the catalogue which strikes us is the list of so-called medicated wines which chemists are now expected to sell; more than 150 of these are named, striking evidence of this modern development of the art of healing.

We commented last week on the difficulties thrown in the way of dirty people nowadays. Temptations to cleanliness entrap them from every wall and hoarding, and from half the chemists' windows. Toilet-soap is now made so perfectly and so cheaply, and is presented so attractively, that its use has become one of the luxuries of life. That the public respond to the efforts made by the soap-makers to please them is evident from the heavy amounts which makers invest year after year in the advertisements of their products. Messrs. D. & W. Gibbs, of the City Soap-works, have long been famous for the quality of their soaps, but we think in the new Floral Cameo Soaps, which they are now introducing, their have beaten their own record. Three tablets of these, each wrapped in blue and gold and packed in a blue-and-gold case, is a stylish setting of a soap which will certainly give satisfaction. And a pile of these cases offers opportunities for very effective counter or window displays. Cold-cream tablets are another leading speciality of the firm, and this soap is now being specially prepared for shaving, and is sold in tablets in metal boxes, or in sticks in metal cases or cartons.

Sanitas and P.A.T.A.—It is of some interest to trace the mental movement which has brought the Sanitas Company into P.A.T.A. line. Possibly their conversion has not been entirely a subjective process. We imagine outside pressure may have had a due share of influence. It was in October of last year that the company first advertised for guidance from their customers. They had 1,104 letters of advice, the vast majority of which urged them to associate themselves with the P.A.T.A. The minority, however, included their largest customers, the principal cutters among whom undertook to observe any conditions the company might make, but strongly objected to dictation through the P.A.T.A. We published an interview with the managing director in our issue of January 1, 1898, when Mr. Kingzett stated that after weighing, as well as counting, the replies received, they had decided to try persuasion before resorting to coercion. The chief difficulty they had, he said, was in the condition that they were not to make terms with their customers direct. If one of these was found to have cut the smallest article on the P.A.T.A. list, he was to be shut out of all the rest. Now the Sanitas Company inform us that they have been trying to carry out their plan of preventing cutting since the beginning of the year, and have attained a large degree of success, but at the same time they have found from time to time that certain firms would break away, compelling others to follow. Then they found that the P.A.T.A. were willing to meet them in the matter over which they differed in the autumn, by allowing them the liberty of supplying any firms, whether members of the Association or not, providing they obtained an undertaking to observe minimum prices. On this they resolved to put all their disinfectant and embrocation proprietaries on the list. At the same time they have slightly modified their minimum selling-prices: 6*d.* articles must not be sold below $5\frac{1}{2}$*d.*—$5\frac{1}{4}$*d.* was the original figure—and 1*s.* articles at not less than $10\frac{1}{2}$*d.*

Business Changes.

Notice of changes in the retail trade, and opening of new businesses, are inserted in this section free of charge, if properly authenticated.

Mr. G. Farrer Rigg, chemist, Kendal, has opened new premises at 25 Finkle Street.

Mr. William S. Moir, from Alford, has opened a new pharmacy at Hatton Cruden, Aberdeenshire.

Mr. James Clark, pharmaceutical chemist, has removed from 397 to 389 Union Street, Aberdeen.

Mr. C. L. H. Gray, chemist and druggist, has opened a pharmacy at Victoria Street, Dyce, near Aberdeen.

Mr. H. E. Spurr, chemist and druggist, has opened new premises at 1 Greenhead Road, Huddersfield.

Mr. Andrew W. Berry, chemist and druggist, will shortly open a new pharmacy at 361 Holburn Street, Aberdeen.

Messrs. Brewster, Smith & Co. have opened premises at 6 Cross Street, Finsbury, for the sale of scientific apparatus and fine chemicals.

Mr. A. S. Weir, chemist and druggist, has purchased the business lately carried on by Mr. Panton, in Kemnay, Aberdeenshire.

Mr. P. S. Knight, chemist and druggist, has purchased the business recently carried on by Mr. E. P. Fitch, 86 High Street, Harlesden, N.W.

Mr. W. Potter Wilson, Dunbar, will succeed Mr. James Watt, jun., in the management of Messrs. Watt & Sons' pharmacy in Haddington.

Mr. Geo. Antoine has been appointed manager of "The Cussett Vichy Natural Mineral-water Syndicate" at 1 Moorgate Street Buildings, E.C.

Messrs. Boots, cash chemists, Nottingham, have opened new branches at 1 Oxford Street, Manchester; 3 and 5 Railway Road, Leigh; and 141 Bristol Street, Birmingham.

Mr. George Taylor, chemist and druggist, 52 Fountainbridge, Edinburgh, will shortly open a pharmacy in Muirkirk, a village in which the drug-trade has hitherto been unrepresented.

Messrs. Marsden & Kay, Anchor Court Warehouses, Preston, have purchased and incorporated with their own the business lately carried on by Messrs. Moore & Co., wholesale druggists, Preston.

Trade-Marks Applied for.

Anyone who objects to the registration of a trade-mark must address the Comptroller-General, Patent Office, Chancery Lane, W.C., within a month of the date of publication.

(*From the "Trade Marks Journal," May* 18, 1898.)

"Itsem"; for chemical substances used in manufactures philosophical research, and anti-corrosives. By Bever Wolf, 64 Vicar Lane, Bradford, merchants. 211,333.

"HOBEAU"; a medicated preparation for the feet (for human use); also toilet preparations. By Christine Haynes, 131 Park Road, Hockley, Warwickshire, manufacturer of toilet-preparations. 211,198. 212,483.

Combination of devices (the essential particular) and wording, "Never Failing"; for patent medicines for human use. By René Jaunin Lecomte, 5 Ardgowan Terrace, 101 Sandyfoot Street, Glasgow, manufacturing chemist. 211,205.

Design of bath with hot-water fumes and flower; for all goods included in Class 3. By the Seltzogene Patent Charges Company, 73 Hamer Street, St. Helens, Lancashire, manufacturers of seltzogene-charges and chemical-manufacturers. 211, 920.

"SYE"; for medicines for human use. By the British Medicinal Capsules Company (Limited), 109 Euston Road, London, manufacturers. 212,311.

"PTYRAZINE"; a medicinal preparation for human use. By Joe Harry Taylor, 14 St. Anne's Road West, St. Anne's-on-the-Sea, chemist. 212,371.

"BERRENO"; a medicated preparation for human use. By Katherine Hartnett, Yelverton Lodge, Auckland Road, Southsea (no occupation). 213.

Picture of raven enclosed in a circle (this device being the essential particular); for a malt-extract for use as food. By Rawstorn, Johnson & Co. (Limited), 78 and 79 High Street, Hull, importers and general merchants. 212,193.

Combination of devices and facsimile signature (the essential particulars); for lemon-fruit juice. By Deighton & Smith, 35 High Street and Severn Valley Fruit-works, Bridgnorth, Shropshire, pharmaceutical chemists. 212,647.

"ENSIGN"; for perfumed soap. By Joseph Crosfield & Sons (Limited), Bank Quay, Warrington, soap-manufacturers. 212,761.

Combination of devices (the essential particular); for furniture-cream. By Richard James, Tell-Tale Works, West Bromwich, furniture-cream manufacturer. 210,497.

(*From the "Trade-marks Journal," May* 25, 1898.)

"ASTEROL"; for chemical substances used for agricultural, horticultural, veterinary, and sanitary purposes. By F. Hoffmann, La Roche & Cie, 184 Grenzacherstrasse, Bale, Switzerland, manufacturers. 213,662.

Label and design of anchor (the essential particular); for medicated pessaries. By John Billington, 230 Cheetham Hill Road, Cheetham Hill, Manchester, chemist. (By consent.) 212,865.

Design of highlander in costume (the essential particular), and wording, "Scot-free;" for a medicinal preparation for human use for the treatment of rheumatism and like ailments. By Arthur Scott, Bristall, near Leeds, farmer. 213,010.

"NASAMRI;" for a chemical preparation for human use. By S. T. Richardson, 3A Rea Street, Birmingham, cycle-manufacturer. 213,180.

"TOVAROS;" for a chemical medicinal preparation for human use. By A. D. Katz, 28 Navigation Street, Birmingham, commercial traveller and commission agent. 213,312.

"BONOTAB" (the essential particular); for chemical substances prepared for use in medicine and pharmacy. By Alfred Inch, 14 Ivy Lane, E.C., merchant. 213,508.

Combination of devices (the essential particular), and wording, "Dermol;" for medicated soap for human use. By Lever Brothers (Limited), Port Sunlight, Cheshire, soap-manufacturers. 213,607.

"HYKLA;" for medicated soap for human use, for common soap and for toilet-soap (being perfumed soap). By William Yarwood, 37 Blackfriars Street, Manchester, soap-merchant. 213,383, 212,286, and 213,384.

Marriages.

ALLIN—WINTER.—At St. Joseph's Roman Catholic Church, Durban, Natal, on April 28, Thomas May Allin (late of Newton Abbot, Devon), manager for Messrs. Reid & Champion, Berea Dispensary, to Bertha, eldest daughter of Mr. G. Winter, Moore Road, Durban.

IRONS—FARNUM.—At All Saints' English Church, New Amsterdam, British Guiana, on April 23, by the Ven. Archdeacon Heard, Mr. Thomas M. Irons, chemist and druggist, of Dundee, Scotland, to Miss Lillian M. Farnum, daughter of Mr. Wm. Farnum, Georgetown.

JACKSON—FROST.—On May 19, at St. Barnabas, Sheffield, by the Rev. A. Wood, J. Gilbert Jackson, chemist, to Florence, second daughter of the late Francis Frost.

Deaths.

BRITTON.—On May 19, Mr. W. B. Britton, chemist and druggist, Barnstaple. Aged 33. The deceased was a son-in-law of Mr. W. Curtis, J.P., Ph.Ch., Bridge House, Barnstaple, to whom he served his apprenticeship, and whose business he afterwards acquired. He was organist of Holy Trinity Church, Barnstaple, one of the original founders of the Barnstaple Football Club, one of the oldest members of the Barnstaple Rowing Club, and a winner of several rowing prizes. He was also an amateur actor of considerable ability, and did much towards raising funds for local charities.

CELLARS.—At Kingskettle, on May 19, William Cellars chemist and druggist, late of Messrs. Duncan, Flockhart & Co. Edinburgh. Aged 25.

GRANT.—At Brechin, on May 19, Mr. J. S. Grant, chemist and dentist. Deceased served an apprenticeship as a chemist and druggist in Aberdeen, after which he entered the service of Messrs. Duncan & Flockhart, Edinburgh. While there he was employed in manufacturing the chloroform used by Sir James Simpson in his first experiments with that drug. From Edinburgh Mr. Grant went to Aberdeen, where he set up in business as a chemist; but about twenty years ago he removed to Brechin, and started as a dentist, a profession which he practised up to the time of his death.

HANSON.—On May 18, at Newbury, Mrs. Hanson, wife of Mr. C. H. Hanson, chemist. Aged 67.

HURTER.—David Garnett Hurter, M.D., son of the late Dr. F. Hurter, the alkali-chemist, died about a fortnight since. Dr. David Hurter was in his twenty-third year, and had had a distinguished career as a student of the Medical Department, University College, Liverpool, graduating as M.B., B.Ch. Vic. with distinction. He was a house-physician in the Royal Infirmary, Liverpool, and a short time after his father's death was attacked by influenza, but refused to lay up, until on April 25 he became seriously ill of enteric fever, from which he died on May 9 Dr. Hurter was working on the Widal's test for the recognition of enteric fever before his seizure, and it is possible that he contracted the fever during that research. He was an extremely lovable young fellow, and his untimely death is much deplored.

NEWBERY.—On May 22, of typhoid fever, May Ethel, younger daughter of Arthur Le Blanc Newbery, of Elmhurst, Barnet, Herts. She died at her post as nurse at the Fleming Memorial Hospital for Children, Newcastle. Aged 28. Much loved and deeply lamented.

WILKIN.—On May 11, at sea, John Acheson Wilkin, assistant colonial surgeon, Accra, West Africa, and late of Armagh and Dublin. Aged 29. Dr. Wilkin came to Dublin in 1885 as assistant to Mr. W. F. Wells, ex-President of the Pharmaceutical Society of Ireland, and afterwards entered the employment of Messrs. Hamilton, Long & Co., State apothecaries, of whose Grafton Street branch he was chief compounder until 1891. He then relinquished pharmacy for medicine, graduating with honours as a physician and surgeon. His ability soon afterwards won for him the Government appointment of assistant colonial surgeon at Accra, where he served with marked distinction up to the time of his death, which occurred while on his way home on six months' holiday leave. The sad event is accentuated by the fact that he was on the eve of his appointment as colonial surgeon-in-chief at an official salary of 1,200*l.* a year. He was a prime favourite with his old pharmaceutical colleagues, and his death is generally regretted.

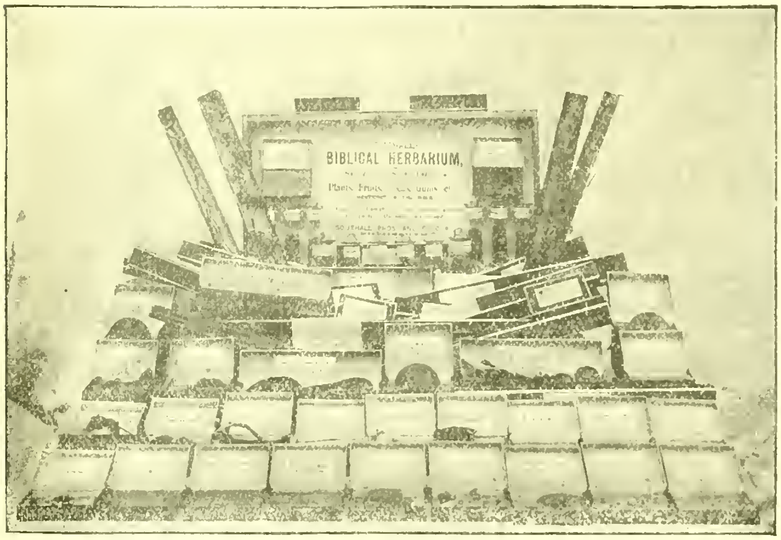
WOOD.—On May 19, at Alexandria, Mr. W. C. Wood, who was for twenty-five years chemist and under-manager to Messrs. John Orr Ewing & Co., Glasgow.

Our Town Traveller.

LONDON TOWN is not the only one in the universe, nor by any means the most go-ahead in Great Britain; indeed, the London County Council is often urged to take a leaf out of the book of some provincial centre—Birmingham, for example, which in all things municipal is ranked as a pattern to Europe. I was there the other day, and having a few hours to spare looked round a bit, and saw that all things were well pleasing to the eye. During my meanderings I met Mr. Thomas Barclay, of

SOUTHALL BROTHERS & BARCLAY,

and while we walked together to the firm's factory and warehouses, he informed me that the firm are on the eve of a great development of their organisation. They have taken five acres of ground about two miles or so from their present factory, and there they are to build extensive laboratories, &c. A walk over the congested premises which they at present occupy—and which, I ought to say, are only to be relieved, not abandoned—showed the need for elbow-room. Since these premises were figured and described in THE CHEMIST AND DRUGGIST a dozen years ago, they have been enlarged by the addition of a floor all round, but a firm with seven energetic partners, and business interests in Greater Britain as well as in Great Britain, must ever be on the move. That is Messrs. Southall Brothers & Barclay's position. I am not at liberty to enter into particulars regarding the new laboratories, but I may say that the extension is one which will place the firm on a level with some of the mammoth drug-houses of the United States. After our conversation on this topic we proceeded to discuss the new Pharmacopœia, and Mr. Barclay handed me a proof copy of the "Notes on the New British Pharmacopœia" which his firm have just published. It is really a price-list, but the notes which it contains on new articles and preparations, on preparations which have been altered in composition, and on those which have been altered in strength are pertinent and suggestive. Bidding Mr. Barclay "good day" I stepped round to the retail pharmacy, where I had a good opportunity of inspecting the "Biblical Herbarium" which the firm have made up at the suggestion of Canon Tristram, F.R.S. This herbarium is becoming very popular in schools and colleges. It contains samples of seventy-five drugs, &c., which are mentioned in the Bible. Some of these are rare, and supplies of them have only been obtained after much searching. The specimens are put up in boxes and bottles, each appropriately labelled, and the whole enclosed in a strong wood case, with lock and key. The engraving gives a fair idea of the bulk of the contents, and I may add that Canon Tristram has edited an "Account of the Plants and Plant-products of the Bible" which accompanies the herbarium. This "Account" is just what many people want. The herbarium sells at 2*l.* 2*s.*, and I should think that many chemists throughout the country would be able to push it.

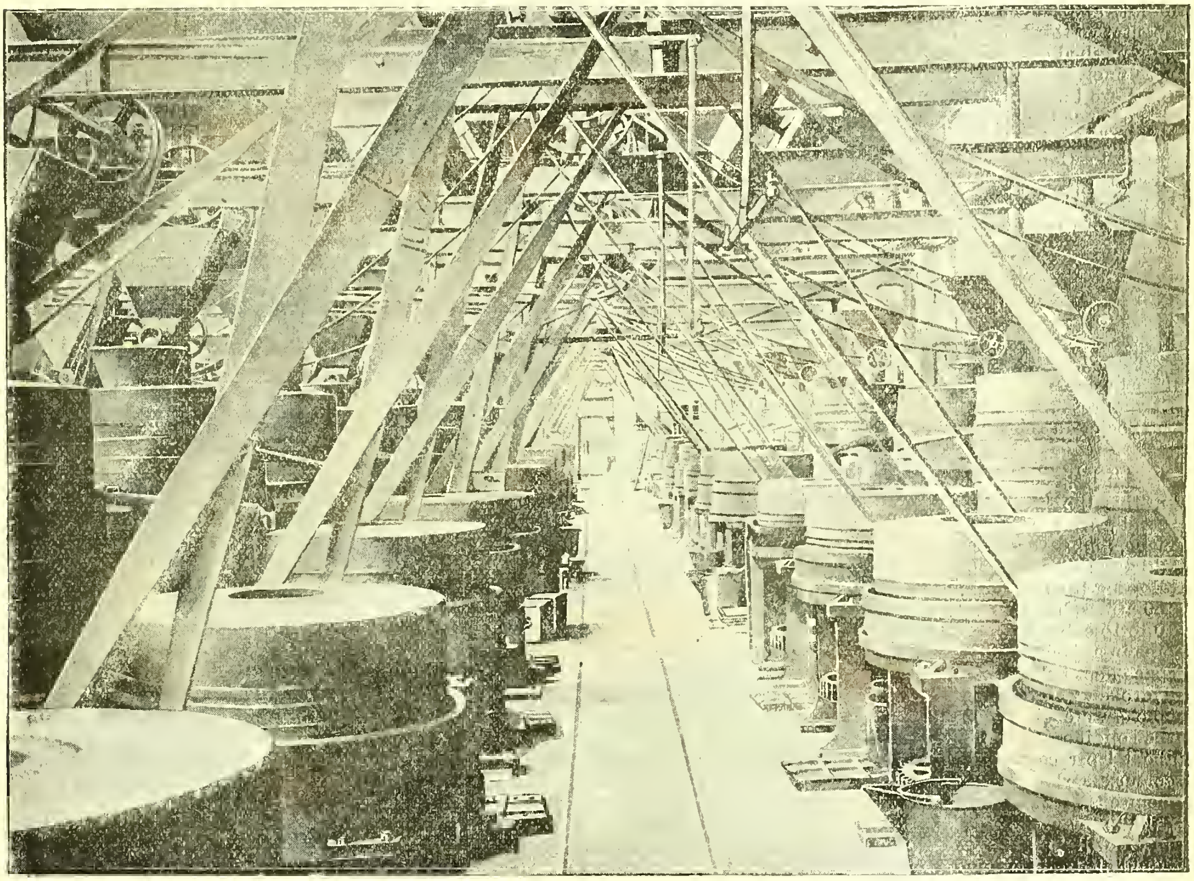


SURGICAL DRESSINGS.

Under the guidance of Mr. A. W. Gerrard, who has recently joined as a working partner the firm of Gibbs, Cuxson & Co., I went out to Oldbury to have a look over their works, but with no intention of saying anything about them. However, what I saw should interest the trade, and I give my notes briefly. First, let me say that the works are in a transition state, as early in April the bookkeeping department was removed from Wednesbury to Oldbury, and Mr. Cuxson is now in the latter place to attend to the commercial side of the business, while Mr. Gerrard superintends the manufacturing department. Mr. R. Darton Gibbs left the firm three months ago, but is still a near neighbour, for on an adjoining plot of ground he has built a box-factory, and there he is likely to make further developments in the near future. His old firm intend to trade under the names of the individual partners, Messrs. Cuxson and Gerrard, when the dissolution arrangements have been completed. The Oldbury premises form three sides of a quadrangle, and there is extensive ground at the open end for future development. The front building is devoted to offices, showrooms, stockrooms, and generally for the despatch of goods. As the firm's connection is to a large extent direct with hospitals, for the supply of lint, cotton-wool, bandages, and antiseptic dressings, this connection compels them to keep a working stock of many sundries which are used in hospitals, and there is evidence of that in the varied stock in the warerooms. But dressings are the backbone of the business and "Dressings" is the telegraphic address. I gathered, as I walked through the different departments with Mr. Gerrard, that "the sweet little cherub which sits up aloft" has been looking after us quietly, as the firm have had urgent Government orders recently for first field dressings; and the war-fever has also brought big export orders for all kinds of dressings. The rate at which bandages are produced, and the piles of them in the winding-room and in the warehouse, were a revelation. The winding-machines which the firm use work by steam-power; they are merely fed with the cotton cloth, and they stop automatically when the desired length has been wound. A girl can attend to two of the winders. I noticed that the plaster-of-Paris bandages are enclosed in Williamson's patent tins, and hermetically sealed, so that they keep indefinitely. The apartments in which wools and fabrics are saturated with antiseptics are complete in their arrangements, and as a powerful centrifugal machine is used for getting rid of superfluous solution, by the time the gauzes get to the calendering-room they are almost dry. Apart from dressings the firm are doing a good business in disinfectants, and have just completed a small building where at present disinfecting-powder is compounded. The accommodation for the bookkeeping department has entailed a good many alterations, but these will have the effect of systematising the factory operations and facilitating business. In the meantime, carbolic gauze, which is an independent branch of manufacture, will be made at Wednesbury. The new firm expect soon to open a depôt in London, so that Mr. Gerrard will divide his time between the Metropolis and the capital of the Midlands.

"IT'S AN INTERESTING BUSINESS."

So said Mr. Richard Cadbury to me, as I looked over the extensive works of which he is one of the founders. They are literally embowered in a garden, and the smoke of seven tall chimneys only seems to hasten the blooming of the flowers. Mr. Cadbury's remark had no reference whatever o the history of the business, nor to its gigantic size—there are fully 2,400 people engaged in the Bourneville factories. It was simply *à propos* of its different departments. There is cocoa to get, select, and prepare; wood to buy and make into boxes, and other materials to shape into those artistic and luxurious nests which shelter chocolate bonbons; advertising to look after; and the welfare of 2,400 people to see to. These, and much more, give Mr. Richard Cadbury and his brother, and two sons of each, work which they do not shirk—for each of them is a worker. It may not generally be known that the father of the present senior partner in the firm was a retailer in Birmingham, and was doing a good business in Churchman's cocoa, an old-fashioned chocolate, when, in 1822, it struck him that the margin between the price of the raw material and what he paid for the manufactured article was rather wide. He, therefore, commenced to make the cake-cocoa; and the venture proved so successful that when his sons came into the business they pushed it ahead well, and the manufacture was removed to Bourneville eighteen years ago. Cocoa-essence has for many years been the firm's leading article—indeed, more than half the raw cocoa which they purchase leaves the factory as "essence," and I believe I am well within the mark when I say that they are the largest makers of beverage-cocoa in the world. It is a fact that they clear a third of the raw cocoa imported into this country, and when we consider that along with the fact that their sales of cocoa-butter represent what they cannot utilise in the manufacture of chocolates, and that these sales almost equal in amount what comes into the Dutch market, no other conclusion can be come to than the one I have stated. I mention this in spite of Mr. Richard Cadbury's warning that no reliable figures can be deduced from the cocoa-butter sales.



"But, Mr. Cadbury," said I, "you have sold 80 tons of cocoa-butter this week, and as you do not remove the whole of the oil from the raw cocoa—say, only two-thirds—that means that since the last auction you have sold about 200 tons of cocoa essence."

"Yes! *at least*; but many times more than that, because we are always using cocoa-butter ourselves in chocolate-making—we have not a grain of cocoa-butter substitute in the place."

"And your cocoa essence is simply the pure cocoa-powder with a portion of the fat removed, and flavoured with vanilla?"

"We have from the beginning made it so; of course, in a way which we keep to ourselves. Experience and skill are required."

It is interesting to note that in 1822, the year that the founder of the business commenced to manufacture cocoa, the imports of raw cocoa into the United Kingdom amounted to 523,279 lbs. for home consumption, while last year no less than 27,852,152 lbs. was cleared for home consumption, this being apart from prepared cocoa, the importations of which amount to about a sixth of the raw cocoa. I could not resist asking Mr. Cadbury what he thought of the Chancellor of the Exchequer's statement regarding the increased importation of prepared cocoa, and he replied that he had no doubt that the imports were for use by cocoa-mixers in this country—that is, it was not due to increase in demand for foreign brands of cocoa in the English market. At the same time, Mr. Cadbury remarked with a smile that the Chancellor was not so well posted as he might be. Being curious to see how this importation of prepared cocoa has been going on this year, I looked into official statistics, and the following are the figures which I find in the Board of Trade Returns. They represent pounds weight of cocoa upon which duty has been paid for home consumption only:—

		Jan.	Feb.	March	April
Raw cocoa	1896	2,464,181	2,543,906	2,456,288	1,522,811
	1897	3,265,006	2,682,733	2,812,259	1,867,775
	1898	3,023,025	2,944,851	2,885,067	2,624,002

		Jan.	Feb.	March	April
Prepared cocoa	1896	222,522	211,713	232,583	228,077
	1897	469,145	722,051	600,478	577,917
	1898	890,422	340,741	424,718	517,738

On the four months of this year there is an increase of 849,205 lbs. in raw cocoa, and a decrease of 191,209 lbs. in prepared cocoa, or, to put it in another way, we are now consuming not less than 30,000,000 lbs. of raw cocoa per annum. It is difficult to grasp what that means in industrial arrangement; perhaps the engraving on the previous page will bring it home. It represents one department in the Bourneville factories—the grinding-room, which is a perfect avenue of buhr mills. After cocoa-beans are picked or selected, they are roasted by steam-heat (a ton at a time in Bourneville), then they are cracked, and the shells are winnowed off. The cotyledons are then passed on to the grinding-room, and the buhr mills quickly convert them into a thick brownish syrup, owing to the fat liquefying by friction. The bean contains on an average 50 per cent. of fat, and for cocoa-essence it is necessary to get rid of about two-thirds of this, which is done by Messrs. Cadbury by a method of their own. The residual cake is afterwards very finely ground, flavoured, and sifted, to form the essence. I believe I am not wrong in saying that the consumption of this essence is greater than the total imports of "prepared cocoa;" not a month passes which does not show an increase in the demand for it, and not a year has passed since the firm went to Bourneville that they have not had to add to the factory in one direction or another, which is a real proof that the public like cocoa and like it pure.

Chemical Society.

At the meeting on May 19, after the usual preliminary business had been transacted, the President (Prof. Dewar) rose and said that he had been asked to bring before the Society a short paper on

The Liquefaction of Hydrogen and Helium.

In this the President recapitulated the history of the attempts at the liquefaction of hydrogen that had been made, and gave an account of the results he had obtained, in which he said that, on May 10, hydrogen was liquefied by allowing the gas, cooled to −205°, and under a pressure of 180 atmospheres, to escape continuously at the rate of from 10 to 15 cubic feet per minute from the nozzle of a coil of pipe in a jacketed silvered vacuum vessel surrounded by a space kept below −200°. On this occasion, 20 c.c. of liquid hydrogen were collected in about five minutes, and on May 12 50 c.c. were obtained before the hydrogen jet froze up from the solidification of air in the pipes. The yield of liquid was about 1 per cent. of the gas. Liquid hydrogen is clear and colourless, showing an absorption spectrum and a well defined meniscus. Experiments on the density of hydrogen in palladium gave a value 0 62 for the substance in combination, and it will be interesting to find the density of the actual liquid at its boiling point. Experiments were made to prove the excessively low temperature of the boiling fluid, a long piece of glass tubing, sealed at one end, but open to the air at the other, and cooled by immersing the closed end in liquid hydrogen, immediately filled, where it was cooled, with solid air; another experiment was made with a tube containing helium.

All known gases have now been condensed into liquids which can be manipulated at their boiling-points under atmospheric pressure in suitably arranged vessels. With hydrogen as a cooling agent, it will be possible to get within 20° or 30° of the zero of absolute temperature, and its use opens up a new field of scientific inquiry. Unfortunately, Professor Dewar added, the cost of each of these experiments is nearly 50*l.*

Sir Wm. Crookes and Professor Armstrong conveyed to the President the congratulations of the Society on his achievement. The latter then spoke of the theoretical value of the research, and predicted that hydrogen would be found to be rather the first member of the paraffin series than a metal.

The Action of Formaldehyde on Amines of the Naphthalene Series. Part I.

By Gilbert T. Morgan, B.Sc.

This paper described the products of the action of formaldehyde on β naphthylamine. The discussion brought to light the fact that commercial formalin usually contains acetone—a fact of which the author was unaware.

The next paper—

On the Constitution of Oleic Acid and Its Derivatives (Part I.),

By Frank George Edmed, B.Sc.

—led to an interesting discussion. The author oxidised crystalline oleic acid and obtained dihydroxystearic, pelargonic, and azelaic acids, and has adopted the formula $CH_3(CH_2)_7, CH : CH(CH_2)_7, CO_2H$.

Mr. Hehner was not disposed to believe that the double-linkage occurred between the central carbons, and thought that oleic acid was probably a labile compound. It was doubtful, too, whether oleic acid was a single substance, and this was supported by the slight differences in optical properties manifested.

The last paper was on some

Stereoisomeric Derivatives of Camphor,

By T. M. Lowry, B.Sc.,

and described some dibromochlorocamphors obtained by heating chlorocamphor with excess of bromine in sealed tubes.

Nottingham and Notts Chemists' Association.

The annual meeting of this Association was held on Wednesday evening, Mr. R. Fitzhugh, J.P. (President), in the chair.

Before commencing the business the President remarked on the absence of their friend, Mr. C. A. Bolton, who had always taken a great interest in the Association. Mr. Bolton had undergone a serious operation, and he (the President) suggested that a letter of sympathy should be sent to Mrs. Bolton regretting the long and serious illness of her husband, and expressing the hope of the Association that he might speedily be restored to health. This was agreed to.

The Accounts.

The report of the Treasurer (Mr. Wilford) showed the receipts to be 131*l.* 10*s.* 4*d.*, including 34*l.* 15*s.* 1*d.*, with which the year began. The year closed with a balance of 28*l.* 7*s.* 7*d*, and 2*l.* 10*s.* 11*d.* cash in hand. A contribution of 10*l.* 10*s.* had been made to the Pharmaceutical Society Benevolent Fund.

Mr. Eberlin presented the annual report, which stated that the year had been an eminently successful one. The address on "Local Organisation in Pharmacy," by Mr. Newsholme, the discussion on the proposed Amendment of the Pharmacy Act, and Mr. Howie's lecture on "The Scottish Alps" were referred to. The educational work of the Association had also been more than usually successful, the classes in chemistry and materia medica had been the most numerously attended they had had. The membership of the Association was now 50, and there were 41 associates. The Council recorded with deep regret the loss by death of the following respected members:—Mr. W. H. Parker, Mr. F. Savage, Mr. J. E. Dennis, Mr. Wm. Widdowson, and an old and esteemed honorary member, Mr. R. Jackson.

The report was adopted after some congratulatory remarks from the President, Mr. Beilby, Mr. Gascoyne, and Mr. Middleton.

On the motion of Mr. Gill, Mr. G. T. Newsholme and Mr. Lamond Howie were elected honorary members of the Association.

The officers for the ensuing year were elected as follows:—President, Mr. R. FitzHugh, J.P.; Vice-President, Mr. E. Gascoyne; Treasurer, Mr. J. Wilford; Hon. Secretary, Mr.

A. Eberlin; Council, Messrs. C. A. Bolton, R Beverley, A. E. Beilby, W. Gill, T. Mason, A. Middleton, F. R. Sergeant, and J. C. Spencer.

Mr. Gill suggested that a deputation should wait on Mr. Yoxall, M.P., and lay before him the views of the Association on his amendment to the Pharmacy Bill, which it was considered would nullify the principal object of the Bill, which was to make the present associates members.

Messrs. Gill and Cook, and the Secretary (Mr. Eberlin) were appointed to interview the hon. member.

The Treasurer moved, and it was agreed that a donation of 5*l*. 5*s*. be sent to the Benevolent Fund of the Pharmaceutical Society.

Mr. Sergeant moved that the Pharmaceutical Society be requested to send to every Coroner in the United Kingdom a copy of the Poisons Act. This was carried.

Western Chemists' Association.

THE closing meeting for the session was held at the Westbourne Restaurant on Wednesday evening, the President (Mr. J. H. Mathews) in the chair. The meeting was of an informal description, there being no special business to transact, and the greater part of the evening was taken up with friendly chats on trade topics. The new B.P. seemed to be the absorbing theme of discourse, and such scraps of conversation as "Have you got in many new things?" "Have you tried the new tincture of orange?" and "It makes a much brighter mixture, does not it?" were caught floating amid the smoke-clouds of the assembly. Arrangements for the annual dinner and annual outing were discussed, and it was decided that the dinner should be held in the Café Royal in November next. The President and the two Secretaries (Messrs. Cracknell and Harington) were appointed to arrange the details of the annual outing, which will take place on July 21. It is proposed that on that occasion the members and their friends take train to Henley, where an electric launch will be engaged to take the party up the river as far as they can go, returning to Henley and thence to London by rail.

Council Couplets.

AS we intimated a fortnight ago the results obtained by this postcard competition are deplorable, so much so that we do not care to print any more of the effusions sent us. However, we will pay the money as we promised, and hope that the couplets sent us were not the very best that the pharmaceutical Muse is capable of producing. The best couplet (and, indeed, the only one which comes near our ideal) is that by Mr. D. GORDON, of Liverpool:—

The saddle of that fiery steed (St. Michael's *mount*) he fills,
The presidential Pegasus is restive without Hills.

To this gentleman we award 10*s*. The other 10*s*. we have decided to give to Miss K. WORTH, Bournemouth. We send 5*s*. each to

E. H. CRASTON, Kew.
J. A. CENTER, Edinburgh.
T. POSTLETHWAITE, Southsea.
J. V. MITCHELL, 413 Oxford Street, W.
W. DODD, Monkwearmouth.
A. F. PICKFORD, 225 Oxford Street, W.

Some of the above are credited with two half-crowns. Half-a-crown goes to the following:—

J. E. S. HACKFORTH, Preston.
F. GREENWOOD, Manchester.
A. E. BEESTON, Norwich.
A. S. KING, Norwich.

"I HAVE received your esteemed work 'Pharmaceutical Formulas,' and I find it to contain many recipes which I have been wanting and which no doubt will be of great benefit to students even more so than to older practitioners."—*S.N.* (183,5).

Personalities.

PROFESSOR MICHAEL FOSTER is to be President of the British Association when it meets at Dover in 1899.

MR. G. BULT FRANCIS (Hearon, Squire & Francis, Southwark Street, S.E.) has returned from his tour round the world much benefited in health.

MR. HARRY B. ASHMORE, of the firm of Messrs. Ashmore & Son, drug-merchants, 6 Mincing Lane, E C., arrived in New York per the s.s. *Etruria* ten days ago.

MR. S. N. PICKARD, chemist, Manningham Lane, Bradford, advertises in the *Bradford Daily Telegraph* that if the man who stole his bicycle last week will call, he can have the inflator.

MR. HUGH M. MASSINGHAM, for many years senior dispenser to the Manchester Royal Infirmary, has been installed Worshipful Master of the De Grey and Ripon Lodge, No. 1,161, of Freemasons.

DR. GEORGE WATT, C I.E, Reporter on Economic Products to the Government of India, has availed himself of eight months' furlough to England. Mr. David Hooper will officiate for him in the Indian Museum during his absence.

THE gross value of the estate of the late Mr. Geo. Hy. Nelson, chemical-manufacturer, Allesley Park, Coventry, partner of the firm of Messrs. Nelson, Dale & Co., who died on March 5 last intestate, has been entered at 82,232*l*. 10*s*. 9*d*., the net value of the personal estate being 55,601*l*. 13*s*. 7*d*. Administration has been granted to the widow.

OUR Manchester correspondent writes:—"The fact that Mr. Walter Gibbons polled a thousand votes in his efforts to gain a seat on the Council of the Pharmaceutical Society has surprised very many of the local chemists. Knowing that he had strong opposition to contend with on the part of certain of the strongest and most influential local members of the Society, his large poll is regarded here with a feeling akin to wonder. Mr. Gibbons is, however, a man not easily put down. He has a strong individuality, great perseverance, and will assuredly in time secure the position to which he honourably aspires."

MISS LOUISA TENDLER is the first woman in the world to get the degree of doctor of pharmacy. She graduated as such at the New York College of Pharmacy a few weeks ago. The *American Druggist* states that the young doctor is a native of Odessa, Russia. At the age of 6 she could converse equally well in French and Russian. It was at this age that she went to the United States, and has lived in New York ever since. Her connection with pharmacy began as clerk with Dr. M. Wilks, of 35 Rivington Street, where she served four years. She matriculated at the College of Pharmacy of the City of New York in 1895, and graduated with the successful members of the senior class of 1897. She then entered the post-graduate class, with the result that her work brought her the Phar.D. degree.

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BRITISH PHARMACOPŒIA
1898.
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CHEMISTS who have their own and Customers' interests at heart should not omit to read the Advertisement on page 51 (bottom folio) of this week's "Chemist and Druggist."

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Prepared and Bottled by the Growers at Bouzy Reims, from the finest Natural Champagnes, and the leaves of the Erythroxylon Coca, and *not* from Cocaine.
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The principle of
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BRITISH PHARMACOPŒIA, 1898.

Editorial Comments

PHARMACOPŒIA DIFFICULTIES.

SOME chemists of an anxious disposition are imagining difficulties which will probably never occur in regard to the new British Pharmacopœia. We are asked to tell them what they are to do with their old stocks; how they are to know whether a prescription is written in view of the new or the old Pharmacopœia; how they can label the old articles, when people ask for them, without risk under the Sale of Food and Drugs Act; how they are to make tincture of orange if they cannot get the fresh orange-peel, and so on. It is well to consider and discuss such questions, and something approaching uniformity of practice is desirable; but there is no occasion to treat the new Pharmacopœia as if it were a calamity unforeseen and unheard of—a scheme for entrapping honest dispensers, a monster laden with dire possibilities for pharmacists.

The truth is that there have been Pharmacopœias before this one, and that there is only the most infinitesimal risk of any of the difficulties suggested being actually met with, and none whatever of any serious injury resulting to anyone if the ordinary good sense and integrity which may be expected of pharmacists are exercised.

First as to the legal position. The authority of the Pharmacopœia is only explicitly declared, we believe, in the Pharmacy Act, and there only as a standard which must be obeyed in compounding medicines prescribed by medical men. The Pharmacopœia is not a recognised standard in trade, and neither chemists nor anyone else are bound to supply an article as described in the Pharmacopœia in all all cases when such an article is asked for. What they are bound to supply is such an article as the customer might reasonably expect to get, and when a medicine is in question the Pharmacopœia, if put in evidence, is obviously an authority of the highest character. It has been during the lifetime of the 1885 edition that its importance in this respect has grown until, in the eyes of inspectors, analysts, and sometimes even of magistrates, the distinction between the Pharmacopœia as evidence and the Pharmacopœia as a standard has been almost obliterated. It is important, however, that vendors should on all reasonable occasions insist on that distinction, so as to prevent the stupid pedantry of such prosecutions as those in regard to soda-water which have not been unfamiliar.

For soda-water prosecutions the sanction of the Pharmacopœia can no longer be invoked, but, on the other hand, insufficiently employed analysts are strengthened in their war against milk of sulphur and sweet spirit of nitre. In our opinion the persecution of these two old popular favourites is utterly unworthy of the analysts, and still more so of the Medical Council. They might just as well have been allowed to die out quietly, if that was to be their fate, instead of employing the machinery of the Pharmacopœia to administer the *coup de grâce*. People who wanted the preparations which scientific authorities have decided are superior could get them by asking for them under their proper names—precipitated sulphur and spirit of nitrous ether, to wit. Now we are implored to say how the old things can be sold if customers insist on having them. Well, if customers really insist on having the inferior preparations, and if this case be proved to a Court, the Pharmacopœia evidence to the contrary will fail, even though the articles are labelled with the synonyms which have been annexed by the compilers. It would be interesting, but risky, to go to court with such a defence. But a label such as this—"Milk of sulphur, made according to the old and popular formula, and not corresponding to the precipitated sulphur of the British Pharmacopœia, 1898"—would, we think, certainly insure safety. For our part, however, we question whether the game is worth the candle. There is no risk in agreeing with the Pharmacopœia, and we doubt if one customer out of fifty will ever complain if the more modern preparations are entirely substituted for the old ones. It is always wiser to swim with the tide than against it.

But then as to the compounding of prescriptions. This is the question which agitates "pharmaceutical circles legitimately so called," as Bloomsbury people call themselves. The wise men who gather there, unanimous as they are in their schemes of doubtful morality, have allowed themselves the luxury of a little difference of opinion on the academic point of the exact moment when the new edition became binding. On the day it was gazetted, say some; on the day it was obtainable, say others; on Midsummer Day, says one authority. If chemists were mere slot-machines such discussions would be in place. But they assume and claim for hemselves rightly that they are the practical interpreters to patients of the attending physician's intention. Surely it is for them to exercise their intelligence in this matter, and it does not need a vast strain. In large dispensing businesses the prescribers who are adopting the new Pharmacopœia will soon be known, and for doubtful prescriptions the rule should be to use the new B.P. preparations as generally as it is quite safe to do so. Wherever, however, there is the least risk from dose no court of law in the land will attach the smallest blame to the pharmacist who steers the prudent course. We do not remember that there has ever yet been a prosecution under the Pharmacy Act for disobedience to the Pharmacopœia in compounding medicines, so that the legal difficulty is not a formidable one. In most of the cases of alteration the change is one which may or may not be an improvement, but which can scarcely have much therapeutic effect. This remark applies to such modifications as the variation of alcoholic strength of tinctures, the reduction of time of maceration of infusions, the substitution of hydrochloride for sulphate of quinine in quinine-wine. In regard to such it is obviously desirable that chemists should adopt the new preparations as soon and as generally as they can. The flood of literature on the subject would lead the uncritical reader to imagine that the new Pharmacopœia was crowded with serious alterations, and that deviation from its instructions might easily result fatally. There are, of course, a great many alterations with which it will be well to become familiar, but we believe we are safe in saying that the appended short list comprises all that offer any chance of serious danger to the patient or to the reputation of the dispenser:—

Aqua Chloroformi is half 1885 strength, so that there is no longer need of diluting it with plain water when prescribing.

Ext. Belladonnæ Alcoholic.—About a quarter the strength of the 1885 extract, owing to dilution with milk-sugar. Dose, now, $\frac{1}{4}$ gr. to 1 gr.; formerly, $\frac{1}{16}$ gr. to $\frac{1}{4}$ gr.

Ext. Nucis Vom.—Two-thirds the 1885 strength, but the dose remains the same.

Ext. Opii Liquid.—Formerly contained 1 oz. solid extract in 1 pint; now contains $\frac{3}{4}$ oz. Dose also less—viz., 5 to 30 minims.

Ext. Physostigmatis.—Owing to dilution with milk-sugar this extract is one-fourth 1885 strength, and the dose four times greater—viz., $\frac{1}{4}$ gr. to 1 gr.

Inj. Apomorphin. Hypoderm.—Now 1 gr. in 110 minims, instead of 1 gr. in 50 minims as formerly.

Inj. Morphinæ Hypoderm.—Contains slightly less than half the morphine of the 1885 injection; now 1 gr. in 22 minims. Dose, 2 to 5 minims.

Liquor Epispasticus is twice the strength of the 1885 article.

Suppositoria Morphinæ.—Each contains $\frac{1}{4}$ gr. of the muriate instead of $\frac{1}{2}$ gr.

Pil. Phosphori.—A new mass containing 1 in 50, instead of 1 in 90. Dose, 1 to 2 gr.

Tr. Aconitæ.—One in 20, instead of 1 in 8, but same dose.

Tr. Aurantii.—Fresh peel only used.

Tr. Belladonnæ is no longer a tincture of the leaves, but of the root (1 in 15, formerly 1 in 20), and is at least twice, but probably three times, the alkaloidal strength of the 1885 tincture. Dose, the same.

Tr. Chloroform. et Morph. Co.—Contains four times more morphine than tr. chlorof. et. morph., 1885, and has a larger dose—viz., 5 to 15 minims, instead of 5 to 10. Pharmaceutically it is a totally different preparation.

Tr. Colchici Sem.—Now 1 in 5 instead of 1 in 8, and dose halved—now 5 to 15 minims.

Tr. Lobeliæ Ætherea.—Ditto.

Tr. Nucis Vomicæ is double 1885 strength, and made from liquid extract.

Tr. Podophylli.— Almost double 1885 strength. Dose, 5 to 15 minims instead of 15 minims to 1 fl. dr.

Tr. Strophanthi,—A very deceptive change. Now 1 in 40, instead of 1 in 20, but as 70-per-cent. alcohol (which is a much better solvent than S.V.R.) is used as a menstruum instead of rectified spirit the alkaloidal strength will be almost the same (say, $\frac{3}{4}$ to $\frac{4}{5}$) as the 1890 tincture. The dose is 5 to 15 minims, instead of 2 to 10.

Ung. Aconitinæ.—Now 1 of crystallised aconitine in 50 instead of 1 of amorphous aconitine in 60; therefore at least three times stronger than the old ointment.

Pharmacists will do well to make themselves familiar with the variations noted in the list above as promptly as possible; they can absorb the other changes at their leisure.

The question has been asked whether the dispenser will be justified in using the concentrated liquors of the Pharmacopœia for infusions or decoctions. We suppose we must answer "No," though it is hardly possible that the compilers could have inserted these without being fully aware that this is the use which will be made of them. Their remark in the preface that "the products of their dilution with water may be prescribed by practitioners in place of the corresponding official infusions" indicates the limitation, it is true, but clearly suggests the use that will be made of them by all but the most scrupulous dispensers.

WEST INDIAN TRADE.

"After nine years' intimate experience of the island, with its law-abiding population, I am convinced of its financial soundness, its steady progress, and its future prosperity." In these terms Sir Henry A. Blake, Governor of Jamaica, concludes his 1896-97 report, which has just been published by the Colonial Office. That is said in face of the fact that the year under review was a bad one—storms, rains, yellow fever, and cheap sugar having made the inhabitants suffer badly. Jamaica is of special interest to us to-day. It is our most important West Indian possession; it has an interesting and growing population, into which a strain of Eastern blood has been infused from the Indian Empire, and, barring the sugar difficulty, its products are of the first importance to the drug-trade. This consideration we had occasion to emphasise in writing recently about the cultivation of ginger, but the value of that spice is insignificant compared to the exports of pimento and dyewoods, which together form almost 17 per cent. of Jamaica's exports. The total business of the island in imports and exports amounts to about 4 million pounds a year. That amount has been exceeded in some years since 1886, but in 1896-97 the business amounted to only about 3¼ millions, of which exports made 1,470,241*l.* and imports 1,856,378*l.* The exceptional reasons already referred to were the cause of the retrogression. It is noteworthy that the imports included 1,027,008*l.* worth of manufactured articles, and "narcotics" go along with food and drink to make up 759,419*l.* of the remainder. "Narcotics" is vague, but includes no doubt opium and Indian hemp. We may say, by the way, that Sir H. A. Blake's report is irritating in some respects. His statistician is a gentleman whose interest in figures is proportionate to their size. For example, he gets together all the imports amounting to certain sums annually, totals them together, and reduces each item to a percentage of the whole, which is so much waste of time. These reports are for the ultimate benefit of the traders of the Empire, and as many facts as possible should be put forward in a straightforward way. It is not of much interest to traders to know that "oil 11·2, soap 30·4 of 20,000*l.* to 30,000*l.*" were imported; the trader wants to know what oil, what soap, and where they came from. It is satisfactory to note that imports from the United Kingdom are increasing. In 1895-96 48·1 per cent. of the imports were from the old country and 41 per cent. from the United States, and last year the figures were 49·9 per cent. from the United Kingdom and 39·4 per cent. from U.S.A. The latter buys more than half of Jamaica's produce—viz., 56·6 per cent. The exports which chiefly interest us are the following:—

		1886–7	1891–2	1893–4	1895–6	1896–7
Dyewoods— Logwood and fustie	tons	63,114	87,352	99,068	85,575	45,863
Pimento ...	...cwt.	65,497	63,730	87,756	97,347	99,551
Ginger ...	... „	9,927	16,273	14,932	17,505	11,014

No figures are given for such products as honey, wax, and tamarinds. As to the values of the articles in the table, taking logwood to represent dyewoods, the rest being very small in comparison, we find the price fairly steady at from 3*l.* 5*s.* to 3*l.* 12*s.* 6*d.* per ton till 1893-94, when it rose to 5*l.* per ton, continuing high until 1896-97, when it dropped to 3*l.* 15*s.* Foreign competition has seriously depreciated the logwood industry, which is regarded in many parts of the island as the great stand-by for keeping money in circulation. The prices realised in Europe fell greatly, owing to large quantities of very superior woods having been received from South America and Hayti. Pimento kept a fair average value of, say, 18*s.* per cwt., but in 1896-97 the price was only 15*s.* 6*d.* Ginger, which was only 36*s.* per cwt. in 1886-87, was 60*s.* per cwt. in 1896-97. These prices are averages. The report concludes with some references to the exhibition which was held in Jamaica in 1891, and which has had a remarkably good effect upon the trade of the island, and in popularising it as a resort for tourists.

Some time ago Mr. C. O. Naftel, formerly Inspector of Estates in Ceylon, was deputed to investigate and report upon the agricultural capabilities of Dominica. His report has just been published by the Colonial Office. It contains several matters of interest to the drug-trade. The climate, temperature, rainfall, health, soil, population, and labour-supply are dealt with fully; then the cultivation of coffee, tea and cocoa, are treated sagely, Mr. Naftel giving good advice to Dominicans regarding the care necessary in preparing these products for the market. The island seems to be a promising field for the culture of several spices; nutmeg-trees are doing well there, so are cloves and cinnamon; but it is doubtful if vanilla can be grown profitably. Mr. Naftel mentions that the "pimento-tree, from the leaves of which bay oil is distilled," grows wild in the island, but the business does not seem to be large. Mr. Naftel seems rather mixed up, for he tells us in one sentence that the trade in the oil is with the United States, and then that the export of leaves was valued at 1,480*l.* last year. Nor is he very definite about cardamoms, which grow wild in the forests of Dominica, and are cultivated (the Malabar sort) on St. Aroment Estate; but whether cardamoms are gathered in Dominica or not, the report does not tell. What it does is to give advice on the growing of cardamoms from Ceylon experience; and as this issue of The Chemist and Druggist will reach some who are directly interested in the development of colonial resources, we give the advice in abstract:—

> The variety of cardamom that pays best is the Mysore. They require rich soil and abundance of moisture, the locality best suited for them being in the forest, along the banks of mountain streams, under the chequered shade of large trees. The plants should be put out 10 or 12 feet apart, and, if raised from seed, they should be a year in the nursery before removing them to the clearing. A quicker way to establish a clearing is to divide old stools into pieces, so that each piece has not less than two shoots on it. The ground must be kept free from weeds and forest growth. When the plants come into bearing, about the third year, the stools must be kept clear from rubbish. The "capsules" must be gathered when exactly ripe, and each "capsule" must be cut off with scissors, leaving a good stalk, or they will split in the drying. They must be dried slowly and carefully to prevent the skin shrivelling, and they may be washed several times during the processs of drying, and then put into the sun to bleach. In order to produce the proper colour, which is a pale straw, they are, in Ceylon, exposed to the fumes of burning sulphur, which is done by spreading them on shelves in a closed box or cabinet, with the sulphur burning in saucers beneath the shelves. When they are quite cured the stalks and tops are cut off close to the "capsule" with scissors. They are then sorted into two sizes through sieves, and any damaged or discoloured "capsules" are picked out.

Mr. Naftel adds that 200 lbs. to 300 lbs. of cured fruit to the acre is a common yield, and this at 1*s.* to 2*s.* per lb. (up to 4*s.* in London at present) is highly remunerative. It will be interesting to watch any development of Mr. Naftel's advice, and should cardamoms be cultivated in Dominica, we expect the United States would buy most of them. The lime-industry has grown steadily in Dominica since 1870, when the exports of lime-juice were valued at 83*l.*, and in 1896 at 14,933*l.*, besides which oil of limes was exported. Mr. Naftel's report may assist in introducing capital, and better methods of utilising capital, into the island; and these were the objects, we take it, for which he set out.

RETAILERS AND THE WORKMEN'S COMPENSATION ACT.

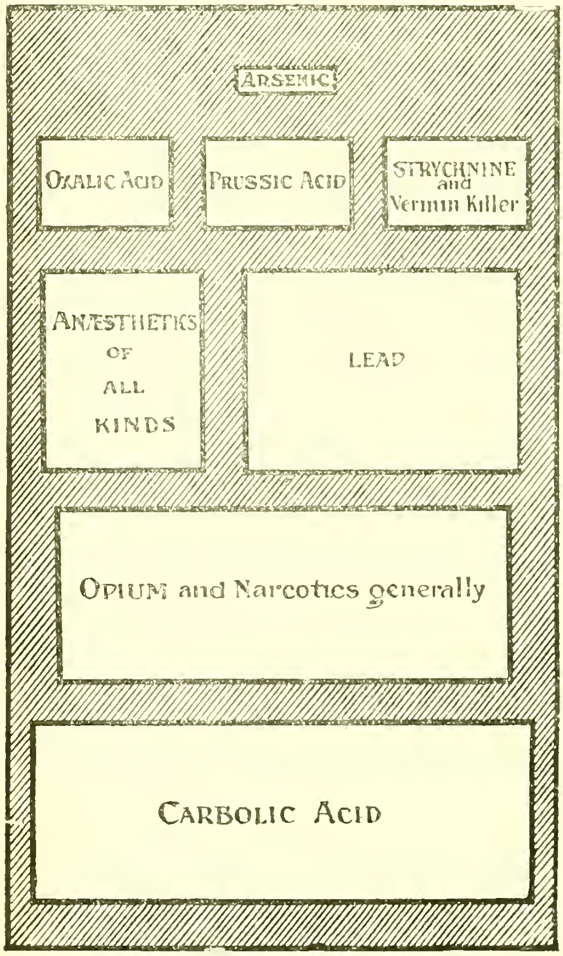
THE Workmen's Compensation Act, which will come into operation on July 1 next, is a measure which may probably have a great effect on the relations between labour and capital. It gives very considerable benefit to workmen at the cost of the employers in all cases of accident occurring in the course of their employment, and although the benefits of the Act are at present limited to workmen employed in what are technically factories and warehouses, the legislation is admittedly only experimental, and the compensation provided will certainly be extended if the present Act should be found to work well. It is not impossible even that in some form it may reach domestic servants one day. But the question arises, and does not seem an easy one to settle, whether the Act, as it stands, can be applied to assistants in retail shops. This has been discussed rather earnestly in the grocery-trade, and last week our contemporary the *Grocer* published a case and counsel's opinion on the subject, and at the same time reported a meeting of the General Purposes Committee of the Grocers' Federation, at which another counsel's opinion was given. The *Grocer's* opinion was given by Mr. W. O. Danckwerts, and the Federation's authority was Mr. A. H. Ruegg, Q.C. It is not necessary to quote these opinions in full; it will be easy to give the substance of them in a few words. The Workmen's Compensation Act is applicable to all factories, workshops, and warehouses which come within the meaning of one or other of the Factories Acts, and the question was, therefore, whether under any circumstances a grocer's shop could become a factory or warehouse of such a character. It is not supposed by anyone that a shop where only buying or selling is carried on comes within the Act, but the case was put of a grocer who on some part of his premises has machinery for coffee roasting or grinding, tea-mixing, or fruit-cleaning. Mr. Danckwerts is of opinion that at least that part of the premises does become a factory. Mr. Ruegg exempts fruit-dressing, because he does not think that a manufacturing process, but he thinks the other processes are manufacturing processes, and would render the premises a factory if they are worked by other than hand-power. The Act which brings warehouses within the meaning of the Act is the Factory Act of 1895, which extends the meaning of the term "factory" to docks, wharves, quays, and warehouses, and, it would seem, was originally meant to apply to what we know as dock-warehouses. It has been interpreted, however, as applicable to a wholesale druggist's sundries' warehouse; and though Mr. Danckwerts and Mr. Beck (the Federation's solicitor) do not think it would extend to a grocer's warehouse, Mr. Ruegg takes the safer view that where any hoist, wheel, or crane is used those premises become a warehouse within the meaning of the Act. Both counsel agree that a claim under the Workmen's Compensation Act must be a claim arising out of the servant's employment as defined by the Act, and consequently that having a warehouse or factory does not bring the adjoining or associated shop within the Act. We may add that there is no doubt that an aërated-water works is a factory within the meaning of the Act. Employers who are likely to be affected would do well to see about insuring against the Act, which, as we have several times explained, entitles workmen to compensation for all accidents, unless it can be proved that they arise from the wilful disobedience or neglect of the servant himself. Under the law hitherto the workman who made a claim had to prove that the machinery was defective, or that he was obeying the orders of a person lawfully his superior.

POISONINGS IN 1896.

THE Registrar General's full report for the year 1896 has just been published, and gives the usual details respecting poisonings in that year. We tabulate his statistics in something like order, and wish he could see his way to arrange his figures in a similar way:—

—	Negligence and Accidents		Suicides	
	Male	Female	Male	Female
Acetic acid	1	—	—	—
Aconite	3	—	1	—
Alcohol	3	4	—	—
Alkali	—	1	—	—
Ammonia	12	8	2	7
Anæsthetics:—				
Chloroform	28	23	—	3
Chloroform and ether	1	—	—	—
Ether	3	3	—	—
Kind not stated	8	3	—	—
Antimony	1	1	—	—
Arsenic	1	3	3	4
Belladonna, atropine	6	3	2	1
Berries, poisonous	2	—	—	—
Bichromate of potash	—	1	7	2
Bromide of potassium	1	—	—	—
Camphorated oil	—	1	—	—
Carbolic acid	25	9	88	75
Carbonic-acid gas	12	1	1	—
Carbonic oxide	4	—	—	—
Caustic potash	1	—	—	—
Chloral	4	2	—	—
Chloride of zinc	1	—	—	2
Chlorodyne	10	3	6	4
Coal-gas	9	7	3	—
Cocaine	—	—	1	—
Colchicum wine	1	—	—	—
Condy's fluid	—	1	—	—
Corrosive acid (kind not stated)	—	—	1	—
Creosote	1	1	—	1
Cyanide of potassium	2	—	18	1
Daisy powder	—	1	—	—
Easton's syrup	—	—	1	—
Essence of almonds	—	1	—	—
Fish, poisonous, food	—	6	—	—
Fish, poisonous, mussels	1	—	—	—
Fish, poisonous, tinned salmon	—	2	—	—
Food, improper	1	—	—	—
Fruit, unripe	2	1	—	—
Fumes, coke	1	—	—	—
Fumes, kiln	1	—	1	—
Fumes, sulphur	1	—	—	—
Fungus	—	1	—	—
Gregory's powder	1	—	—	—
Henbane	—	1	—	—
Hydrochloric acid	12	3	18	11
Ice-cream	1	—	—	—
Jeyes' fluid	—	1	—	—
Lead	103	24	—	—
Lead acetate	—	—	1	—
Liniment	2	—	1	—
Mercuric chloride	—	—	2	—
Mercury	1	3	—	—
Mercury precipitate	—	—	—	1
Narcotic	4	4	—	—
Nitrate of copper	—	—	—	1
Nitric acid	4	—	4	1
Nitrogen trioxide	2	—	—	—
Nitrous oxide	1	—	—	—
Opium, laudanum, morphia	41	48	39	17
Overdose of medicine	—	1	—	—
Oxalic acid	1	1	15	9
Phosphorus	—	5	2	9

	Negligence and Accidents		Suicides	
	Male	Female	Male	Female
Phosphorus matches	1	—	—	—
Prussic acid, oil of almonds ...	3	—	24	4
Ptomaines	10	4	—	—
Pyrogallic acid	—	1	—	1
Quinine	1	—	—	—
Salt of lemons	—	—	—	4
Seeds, laburnum...	—	1	—	—
Seeds, wild-rose	—	1	—	—
Sewer-gas	13	6	—	—
Smoke	5	2	—	—
Soda	—	1	—	—
Sulphuretted hydrogen... ...	6	—	—	—
Sulphuric acid	2	—	4	1
Strychnia, nux vomica	4	2	12	12
Vermin-killer	—	1	1	3
Water-hemlock	—	1	—	—
Weed-killer	1	—	1	—
Wild hops...	—	1	—	—
Kind not stated	25	16	20	21



There are some notable features in the poisonings of 1896. First take the totals and compare them with those of 1895. They come out as under:—

	1895		1896
Accidental, males	350	...	391
„ females	208	...	213
Suicide, males	347	...	279
„ females	233	...	195

Accidents and negligence account for more deaths, and suicide for fewer deaths, by poison in 1896 than in 1895. The total shows 60 fewer deaths in 1896 than during its predecessor. What is particularly noticeable is that the deaths from carbolic poisoning show for the first time for a long series of years some diminution. In 1890 carbolic secured 69 victims, 94 in 1891, 106 in 1892, 148 in 1893, 201 in 1894, and 258 in 1895. In 1896 the total number of deaths attributable to it was 197. The falling-off was in suicides for the number of accidental deaths from carbolic acid was 34 in 1895, and the same number in 1896. The carbolic-advocates are welcome to all they can make out of this report. It still remains the fact that carbolic acid is far and away the most fatal of all substances used for poisoning or causing poisoning-fatalities. The reason is as obvious as the sun in the sky. It is simply that it can be obtained without any formalities and from all sorts of unqualified traders. We annex a diagram which may be taken to represent in superficial area the total number of deaths from poisons in 1896. On that basis the proportion of carbolic acid to the whole will be seen to be enormous. The typical poison to the official mind is arsenic. It compares with carbolic acid as 11 does to 197. Oxalic acid, prussic acid, and strychnine are nowhere in the comparison, while deaths from anæsthetics, deaths resulting from the lead-poisoning which seems to be an inevitable result of some of our great manufactures, and even deaths from all opiates put together, are appreciably fewer than those from this most cruel poison. And yet is it conceivable that any poor wretch "tired of life's history" would ever choose carbolic acid in preference to the soothing laudanum if the one could be obtained as easily as the other? We have been trying for years to get this fact into the apprehension of his Grace the Lord President of the Privy Council, but so far without much effect. May the diagram accomplish what the English language has failed to perform.

Too much attention should not be paid to the occasional curiosities of the list; some like these appear every year. Among the curious causes of violent deaths recorded we find two from "tight boots." The Government rope accounted for twenty deaths, a larger number than for many years; in 1895 the executions numbered only ten.

THE DISCOVERY OF QUININE.

The work of Pelletier and Caventou in the separation of the cinchona alkaloids has been recognised and appreciated in all parts of the world, but perhaps few pharmacists know with anything like accuracy the details of that work. As a tribute of respect to the memory of these predecessors of his own in a similar field of labour, Dr. de Vrij, the famous Dutch quinologist, has lately reprinted and presented to his friends the report of the original paper in the *Annales de Chimie et de Physique* of 1820, in which the discovery of quinine was first announced. The memoir was read to the Academy of Sciences of Paris, on September 11, 1820, and in the reprint now before us it occupies fifty octavo pages. It summarises a vast amount of labour, and while a few errors can be noted in the observations of the authors, nearly the whole of the essay might have been written to-day, so perfectly was the work done and described.

In opening their paper the authors referred to previous treatises on the cinchonas. They mentioned the "grande dissertation" of Fourcroy, "which was for a long time regarded as a model of vegetable-analysis"; they referred to Vauquelin's examination of eighteen species of *Cinchona*, and to other less familiar treatises. But especially they fixed attention on the work of M. Gomes, of Lisbon, who had lately reported the discovery of the alkaloid cinchonine in the grey cinchona-bark (*Cinchona condaminea*).

MM. Pelletier and Caventou repeated M. Gomes's work on cinchonine, made exhaustive analyses of the bark, separated all its constituents, and suggested an improved method of obtaining the alkaloid. This part of their treatise occupies forty-two sections. The authors next proceeded to apply their processes to the analysis of the yellow bark (*Cinchona cordifolia*), and to their astonishment they could not extract a crystallisable substance from the bitter acid tinctures. They got an amorphous substance, very bitter, which, unlike cinchonine, dissolved completely in ether, and after many experiments they were forced to the conclusion that the yellow bark yielded a different alkaloid to the grey bark; and "as in a work of some extent we are obliged to designate the alkaloid of yellow cinchona without employing paraphrases; and as, besides, this substance, clearly characteristic, deserves a special name as much as its relative of the grey cinchona, we have decided to name it quinine, in order to distinguish it from cinchonine by a name which similarly indicates its origin." That was the baptismal record of our leading medicine. The authors then went on to make and describe all the salts of their new alkaloid, and afterwards they experimented with the red bark (*Cinchona oblongifolia*), and were rewarded by a far richer yield of alkaloid than any they had obtained before; for while the grey bark gave them 2 grammes of cinchonine per kilogramme of bark, and the yellow bark 9 grammes of quinine per kilogramme, they obtained from 1 kilogramme of the red bark 8 grammes of cinchonine and 17 grammes of quinine. In conclusion, they pointed out that probably these alkaloids might serve as substitutes for the barks in certain cases, and they expressed the hope that some skilful practitioner, "joining prudence to sagacity," would make therapeutic researches with these products.

THE ANISOLINE PATENT.

The judgment of the Court of Appeal in this protracted case decides what we believe to be a new point in chemical patent law. The Badische Anilin Company, the patentees of a particular chemical-dye, alleged infringement of their patent by a French company. They gained their case on all but one very important point. This was in respect of a process in which an autoclave had to be employed. It was only discovered in the course of the action that to secure the result required it was necessary to use an iron autoclave, the iron of the vessel having an action on the chemicals. An enamelled autoclave, it was found, would not fulfil the requirements. The other side at once alleged insufficient specification, and Mr. Justice Wills took that view and decreed that the patent was not valid. The Badische Company appealed, but unsuccessfully. The peculiarity of the case is that when the specification was made the process was, as far as any one can tell, expounded with every desire to be explicit; the particular action of the iron was not suspected. But the patentees have to lose their monopoly because they did not foresee a discovery which nobody had then made.

SURGERY EXTRAORDINARY.

A few weeks ago the *Lancet* contained particulars of an extraordinary operation which a German surgeon had performed upon an elderly woman—viz., the successful and complete removal of the stomach. This operation was followed by the very good health of the patient, who began to put on flesh rapidly. Now we learn from the *British Medical Journal* that two French surgeons, Tuffier and Dujarier, have performed an even bolder operation—viz., the removal of the bladder. Particulars of the operation are given, but it is left to the imagination whether the operation has been actually carried out, or whether it is only in the experimental stage. We understand that it has been performed, and in the case of the male subject the ureters were gathered together and connected, preferably with the large intestine instead of with the rectum. In the female, however, the vagina best serves as an outlet for the urine.

DIGITALIS IN TABLETS.

Dr. E. M. Houghton has communicated to the *Therapeutic Gazette* notes on a physiological investigation which was undertaken to determine if fluid preparations of digitalis are active when manufactured into tablets. The paper contains data of the investigation and sphygmographic diagrams which go to prove that "active fluid preparations of digitalis do not lose in activity by being manufactured into tablets, nor do the tablets become less active by keeping than do the other preparations of digitalis."

TARTARIC ACID.

Mr. David Howard has already called attention (*C. & D.*, April 23, page 675) to the new British Pharmacopœia test for lead in citric and tartaric acids, which is so stringent as to make it impossible for manufacturers to produce acids which will satisfy the test. We recur to the matter now, because there is widespread complaint on the part of manufacturers and dealers, who know that it is impossible to supply acids which will strictly accord with the official requirement, and we think it right that those of the retail trade who insist upon having everything strictly B.P. should convince themselves that in this matter they are seeking the unattainable. Mr. Robert Warington, F.R.S., in 1893 proposed a test which did not absolutely exclude reaction with sulphuretted hydrogen or ammonium sulphide; but the British Pharmacopœia compilers rejected that test for some reason or other, and adopted one which is to be equally applicable to citric and tartaric acids, in the latter point differing from the German and United States Pharmacopœias, as the following comparison shows:—

CITRIC ACID.

B.P., 1885	B.P., 1898	U.S.P.	German
Aqueous sol. not darkened with H_2S.	10 grammes in 20 c.c. water, neutralise with ammonia, and make up to 100 c.c. with H_2S. sol. No darkening.	Insufficiently neutralise with ammonia, and add H_2S sol. Should not be darker than faint yellow brown.	Same practically as U.S. P., but no change permitted.
		TARTARIC ACID.	
As above.	As above.	Supersaturate 10-per-cent. solution with ammonia, and add 1 drop ammon. sulphide sol. No change.	Same as above.

Mr. Warington's recommendation was to exactly neutralise a solution of 40 grammes of either acid with ammonia, make up to 120 c.c. with water, and to 50 c.c. of this solution add 1 drop of ammonium-sulphide solution. The presence of 1 part of lead in a million of either acid is shown by colouration; but if the acids contain less than this, and the merest excess of ammonia is added, iron (a practically unavoidable and irremovable contamination) is returned as lead. This is the point which the B.P. authorities should amend as soon as possible by making the text, page 10, read as follows:—

To a solution of 10 grammes in 60 c.c. water add solution of ammonia until the mixture only feebly reddens blue litmus, and 20 c.c of a saturated aqueous solution of hydrogen sulphide; no darkening, &c.

ACETIC ACID.

A very large proportion of the acetic acid of commerce does not meet the new B.P. permanganate test, because most of the acid is used for pickling and other purposes, in which the presence of organic bodies is rather an advantage, and an absolutely pure acid would be prohibitive in price. The only way to get acetic acid and dilute acetic acid to meet the B.P. requirement is to dilute the glacial acid. Messrs. A. & M. Zimmermann have issued a circular to this effect, and our inquiries of other makers confirm their view.

Messrs. Zimmermann state that their glacial acid has always satisfied the new requirement, because the test is an old prescription of the German and Japanese Pharmacopœias. At the same time they strongly recommend that dilutions of glacial acetic acid should not be used for other than medicinal purposes.

BRITISH INDIAN TRADE.

The way that Germany has gained a footing in nearly all departments of trade in British India is worth the careful consideration of our manufacturers. In 1880 the German exports to the greatest of our dependencies were valued at 4,600,000m. (1m. = 11½d.), by 1889 they had increased to 26½ million marks, and in 1896 they totalled 46,200,000m. Metal goods and sugar form the chief exports; but we notice increasing accounts in aniline dyes, of which 8,066 double centners, valued at about 3½ million marks, were exported to India in 1897, and perfumery, of which nearly a million marks worth of German manufacture was consumed in India last year. Perfumery is a big class of goods, and the German stuff which finds ready sale is cheap and flashy, and often an imitation of British brands. British manufacturers can get that trade if they like to try for it; and if they do not wish the German figures to double within the next decade, now is the time for them to make their effort.

A NEW TEST FOR GLUE.

Mr. Julius Fels has communicated a paper to the *Chemiker Zeitung* in regard to the testing of glue. It has previously been shown that the viscosity of the solution might be taken as a measure of the value of the substance, and accordingly Mr. Fels has submitted a number of samples to the test with gratifying results. The first step in the assay is to ascertain the percentage of moisture in the glue or gelatin, as the case may be, by drying it at 30° C.; then making a 15-per-cent. solution of the anhydrous material in water. The viscosity is determined by ascertaining the time that it takes for 500 c.c of the solution to pass through a burette of known aperture (the size is not stated in the paper from which we quote). The quality of the glue or gelatin is expressed in percentages from 100 per cent. to 15 per cent. according to the viscosity factor. We are interested to observe that the powdered glues manufactured by Mr. A. Brauer, of Lüneburg, come out best. One sample "Pferd G. P." comes out at over 100 per cent., and no trade samples of German make at all approach this.

BORIC ACID IN FOOD.

Dr. Alfred Hill, Medical Officer of Health for Birmingham, is making a strong effort to stop the sale of foods to which preservatives, such as boric acid, have been added, and he has succeeded, with the backing of Dr. A. P. Luff and Dr. Vachell, of Cardiff, in getting a grocer fined for selling butter to which 70 gr. of boric acid per lb. had been added. Dr. Hill stated in his evidence that boric acid causes vomiting, diarrhœa, hæmorrhage, impairs digestion, that it affects the heart, and produces such skin-diseases as eczema. Even repeated 5-gr. doses are capable of producing these symptoms, he said, and that amount was in an ounce of the butter. Dr. Vachell said that in prescribing boric acid medicinally he generally found that it produced, in a period of two or three weeks, eczematous skin-affections. This is not the first conviction for the addition of preservatives to food, but it is exceptional, and from communications which have recently been addressed to the Local Government Board it would appear that boric acid is specially aimed at, and that the importation of milk preserved with boric acid may be interdicted. Perhaps this is a case similar to the new B.P. provision for the exclusion of salicylic acid from wines, nothing being said therein against the use of sulphites; so with dairy produce, if boric acid goes out it will leave the door wide open for formaldehyde.

The Highest Pharmacy in Europe

(that at St. Moritz, Engadin, Switzerland) is kept by an Englishman—Mr. Walker, of Nottingham—who studied at Berne and took the Swiss diploma. It is situated 1,856 metres above sea-level (= 6,087 feet). The pharmacy is well-stocked with the usual English goods, special favourites being B. W. & Co.'s goods, Eno's fruit-salt, Brand's essence, &c. Mr. Walker is ably seconded by Mr. Horace Hill, of Norwich, who has been engaged for many years in the continental business and speaks four languages fluently. Every European language is spoken at St. Moritz, while the natives employ the "Romansche," which is a kind of Russian salad of Italian, German, French, and Spanish. Mr. Walker is a great lover of dogs and keeps about twenty of them. In the windows are displayed stuffed birds and beasts, and this fact has won for the pharmacy the irreverent title of "The Menagerie." One of the dogs, an enormous St. Bernard, is harnessed to a sleigh in winter-time, in which mineral waters and other goods are delivered to customers' houses. There is an English doctor at St. Moritz—Dr. Holland—who has contributed largely to the success of the village, and consequently is allowed to practise here, although he has not a Swiss diploma. St. Moritz is about sixty miles from the nearest railway station, and this takes a day's travelling by the mail diligence. Gas cannot be used there because coal costs too much, but the town is lighted by electricity, the force for which is supplied by a mountain torrent; at midnight this is turned off *à la* curfew, and anyone wanting to stay up later must prepare his lamp. Water boils at about 90° F., so it soon gets cold again, and hot coffee is not easy to obtain. Barometers brought from below are hopelessly at sea, and have to be corrected to elevation. One of the great attractions in St. Moritz is that it may snow any day in the year. In 1896 there fell 2 feet of snow on August 26.

JAPANESE war ships get the magnesia covering for their steam-pipes from the United States. The English Washington Company might look after this.

Pharmacy in New York City.

By a Man from London.

THE familiar drug-store is even more prominent in this city than at home; it is found at nearly every corner. It is a marvel how all of them live; but many of them seem to flourish abundantly. They are generally fitted-up very elaborately, and, as a rule, are larger than in England. Space is obtained in depth from the window. This allows of very long counters, upon which are glass cases, usually nickel-silvered around the edges, mirrors abound, and the soda-water fountain, which is an invariable feature with its marble slab and bright-silvered mountings, makes the inside a blaze of brightness when the electric lights are on at night. Telephones are found in almost every druggist's shop, and contribute to the income, each "talk" netting the druggist 5c. profit.

Rents are high, and the equivalent of 150*l.* a year is considered reasonable. Rents are paid monthly, and leases seldom granted for some reason or other.

The drug-store generally occupies the ground floor of one of a block of houses, seven or eight storeys high, the other part of which is let in flats of five or six rooms to private families, so a considerable portion of the druggist's customers are on the spot.

The New York pharmacist handles many different things outside drugs. The soda-water fountain is the principal net for the elusive dollar. In summer ice-cream, with a fruit-flavoured syrup combined with ice-cold soda-water, is consumed in enormous quantities. Most druggists manufacture their own ice-cream. They get fresh ice every morning from the ice-waggons, which are as common in the streets as coal-carts. The soda-water used at the fountain comes in cylinders of about 10 gals. already charged; they connect with pipes running to the taps of the fountain, and are kept in a cool place, generally the cellar.

In winter hot soda-water, beef-tea, chocolate, coffee, egg-flips,and other warm drinks are served at the soda-counter. Preparations of coca are the fashion just now. These drinks range from the common nickel (5c.) each, and seldom, indeed, is the young man behind the fountain idle.

As dispensing physicians are rare in this city the pharmacist gets a decent share of the well-beloved prescriptions, and though there is a deal of cutting going on the prices obtained are good on the whole. Notwithstanding that a deal of the prescribing is for proprietary remedies, which show little profit, I am persuaded that on the whole in this branch of the business the New York pharmacists get at least double the prices and profit which their English *confrères* look for.

Fluid extracts, and ready-made pills, granules, triturates, &c., are all the go here. The prescription is not copied and returned to the customer, but is numbered to correspond with the label, and then pasted in the prescription-book.

The general trade is, with the exception of a few German remedies, much the same as in England, though some things which one would expect to be largely in use are practically unknown or neglected. Chemical-food, for instance, is but seldom asked for or prescribed. Prescribing druggists have to be very cautious, as the law against unqualified practice is stringently enforced. The result is that proprietary articles for every disease and complaint are put up. There are no patent-medicine stamps.

The pennyworth of pills, &c., is unknown to New York pharmacy. Nothing is sold under 5c., consequently the day's takings total up quickly even in the poorer districts. On the other hand, as I said before, rents are high, and wages for assistants—or drug-clerks, as they are called—is also an item: junior clerks $8 to $10 a week, seniors $15 to $18 (3*l.* to 4*l.*) being a fair average for competent men.

But, lest these figures should read tempting, I must emphatically warn readers of The Chemist and Druggist that a shilling goes as far in England as a dollar does here; moreover, the hours are longer, as the drug-stores keep open all Sunday, and most of them all night; and as the retail trade is largely in the hands of Germans, a man stands a good chance of being placed in an awkward position before he obtains employment. A knowledge of German is almost indispensable in New York City. Let no one be foolish enough to leave a certainty for probably a dead blank. There are plenty of drug-clerks in the city looking for employment, and New York is a queer place to get along in without money for those not Americanised.

We get calls occasionally for some familiar articles—Beecham's pills, Colman's mustard-oil, Allen's hair-restorer, Mellin's and Nestlé's foods, and the ubiquitous Pears' soap are among the more frequent. Hair-restorers composed of precipitated sulphur and acetate of lead command a very large sale under a bewildering variety of names. Passing a well-known double-cut druggist's store some time ago, I joined a crowd of people watching a man putting up hair-grower at 50c. a bottle; he was entirely baldheaded, and notices were exhibited around him that had he used R——'s hair-grower in time he would not have been as he was. This is an instance of how the druggist here makes use of his windows to advertise his specialities. Every device that ingenuity can suggest is used to attract attention. A man or woman in the window seems to answer best. The pharmacist I have alluded to lately fitted his window up inside like an Indian's tent, and had a family of real Indians working, making all manner of beaded slippers, &c., to advertise some patent medicine. There was such a crowd around this store that one night the window was pushed right in upon the startled warrior, his wife, and papoose.

In most of the drug-stores just now is seen a nicely-dressed doll, about 3 feet high, advertising a soap, with each cake of which is given a small Japanese doll; and quite recently an enterprising pharmacist placed slot-machines in his store which are free to his customers.

An enormous quantity of ext. hamamelis, or witch-hazel, is used here; it is put up and sold in 16-oz. bottles. Beef-and-iron wine, kidney-cures, nerve-tonics, and cod-liver-oil emulsion are also very popular, and go all the time.

The drug-trade is sadly cut up by the large department stores, which make leading lines of patents below cost; but the ordinary druggist meets the competition in his own business by stocking cigars, stationery, &c., and, on the whole, keeps his head above water, and, if he does not reach the millionaire mark, he makes a decent living; but the same grumbling exists as with English chemists.

Many herbs and roots are used here which I am not aware are handled in England. The following, which I send as a curiosity, would make an assistant open his eyes if called upon to find all the ingredients.

An American cough and cold mixture contains:—

Fluid extract white pine bark.
Fluid extract wild cherry bark
Fluid extract balm of Gilead.
Fluid extract spikenard.
Fluid extract blood-root.
Oil of sassafras.
Chloroform.
Morphine.
Syrup.
Alcohol.
Water.

Wills.

The will of Mr. William Hurd, chemist and druggist, Market Place, Uttoxeter, Staffordshire, who died on November 12, 1897, has been proved by Miss Elizabeth Ellen Lakin, the sole executrix of the testator, whose personal estate is sworn at 325*l.* 4*s.* 2*d.*

The will of the late Mr. Harry Pentelow, chemist and druggist, March, Cambridgeshire, has been proved at Peterborough by Mr. David H. Scott and Mr. James Green, the executors of the testator, whose personal estate was sworn at 182*l.*

The will of Mr. Thomas Henry Keer, pharmaceutical chemist, 177 Regent Street, who died on January 14, has been proved by Mrs. I. S. Keer, the widow, by whom the testator's gross estate is sworn at 224*l.* 16*s.* 6*d.*, the net personalty being 81*l.* 5*s.* 6*d.*

The will of the late Mr. Thomas Peake, chemist and druggist, Bristol, has been proved at the District Registry by Mrs. Peake, the widow, Mrs. M. E. Mosley, and Messrs. A. W. Peake and F. E. Peake, physicians and surgeons, by whom the testator's personalty was sworn at 3,625*l.* 9*s.* 6*d*

Westminster Wisdom.

The Pharmacy Bill.

The fatal Whitsuntide has arrived, an epoch at which it is generally thought further progress with private members' Bills is hopeless. The Government have twenty-six Bills in progress, and several others which they have promised but have not yet introduced. These (including supply) will no doubt suffice to fill up the remaining two months of the Session, and the Government will probably nominally absorb all the time of the House. On the other hand it has to be remembered that only a little time would be necessary to get the Pharmacy Bill through if a chance opportunity should be presented. Of course, those who like Dr. Tanner take "a sincere interest" in its fortunes may lengthen the discussion, but the Bill shares with only one other private member's Bill the advantage of being in committee, and as such it now takes precedence when it is down over Bills which have not reached their second reading. So that, if it should at any time block the way of any of the latter, the promoters of the other Bills will be disposed to help it along only to get it out of the way. Mr. Smith has put it down for the first day when the House reassembles, on June 6.

Proposed New National Laboratories.

A Select Committee of the House of Commons is inquiring into the cost and administration of the museums of the Science and Art Department. Sir Henry Roscoe was examined at the last sitting, and strongly supported the erection of laboratories for chemical, physical, and metallurgical work on the west side of Exhibition Road on a scale worthy of the country, and the removal of those on the east side in proximity with the art collections.

The Sale of Food and Drugs Bill.

Mr. Chaplin is gradually screwing up his courage to a wrestle with the analysts and the adulterators. In the House of Commons on Monday last Mr. Compton Rickett (Scarborough) asked the President of the Local Government Board whether he anticipated the introduction during this Session of a Bill dealing with the adulteration of food and drugs, as mentioned in the Queen's Speech. Mr. Kearley (Devonport) and Mr. Jeffreys (Basingstoke) also had on the paper questions to the same effect; and, answering all at once, Mr. Chaplin said, "I am not in a position to state the precise day, but I hope to introduce a Bill upon the subject very shortly."

Lead-Poisoning.

In reply to Mr. Woodall on Monday, in the House of Commons, the Home Secretary stated that he had appointed two experts, one of them a chemist, Dr. Thorpe, and the other a medical man, Dr. Oliver, who has served already on several dangerous trades committees, to ascertain the extent to which various materials recommended as harmless substitutes for carbonate of lead are free from the dangers attending the latter. The suitability of these materials for the trade is mainly a question for manufacturers, but it is possible on this point also that the experts may render some assistance.

A Medical Act for India.

Sir Walter Foster on Tuesday asked the Secretary of State for India whether he was aware that at present uneducated and unqualified persons had as much right to practise medicine in India as fully-qualified practitioners? and whether, in view of the danger to which the Indian people were thereby exposed, he would consider the advisability of instituting a system of registration for medical practitioners similar to that which exists in Great Britain and Ireland? To these questions Lord George Hamilton replied: The answer to the first branch of the question is in the affirmative, and that to the second branch in the negative. It would be, in my judgment, impossible in the present condition of India to prevent the people of that country from resorting to native practitioners, even though they may be regarded by Europeans as not fully educated or qualified for the work they undertake. It would seem from these questions and answers that neither Sir W. Foster nor Lord G. Hamilton has a very clear idea of the scope of the Medical Act, which in no way prevents unqualified persons from practising.

Side-lines.

HINTS FROM EXPERIENCE.

V.—Lubricating-oils.

Now that everybody possesses a cycle or a sewing-machine, the question of lubricating-oils is of almost universal interest, while to people who have control of machinery the selection of a proper material is of immense pecuniary importance.

LUBRICATION.

When two dry surfaces are continually moving in contact with one another the friction is considerable, and this friction leads not only to waste of driving-power, but also to mutual destruction of the working parts. Moreover, as the temperature of the dry bearing rises—as rise it must—the friction greatly increases, and there comes a time when the softer metal is "seized" by the harder, pieces are dug out of it, and the spindle begins to look and behave like a revolving round file. If, therefore, by some device or other the two surfaces can be kept slightly apart and prevented from getting hot, there will be a saving of energy, as well as a longer life before the bearing. It is, of course, impossible to do away with friction altogether. Were it feasible, perpetual motion would be brought almost within sight, although some other highly inconvenient consequences might ensue. But by the introduction of a suitable lubricant into a bearing, the friction is changed from that between steel and steel or steel and gunmetal to that between oil and oil.

THE IDEAL LUBRICANT,

accordingly, must be a body which possesses great adhesive power, so that it thoroughly moistens, without soaking into, the metallic surfaces, and so that it cannot, except with extreme difficulty, be squeezed out of the bearing. At the same time it must exhibit the minimum of cohesiveness, or, as some investigators prefer to call it, internal friction; so that while the particles of the lubricant rub one against another during the revolution or motion of the moving part, they may develop as little friction among themselves as practicable. It also follows that the material ought not to volatilise or change in composition in any way under the conditions obtaining in the bearing, lest it either disappear by evaporation or become converted into a less efficient lubricator, if not into a substance capable of injuring the bearing-surfaces themselves. In former days it was often the custom

TO ESTIMATE THE VALUE

of lubricating-oils for any particular purpose from their sp. gr.; and perhaps even now the practice is not quite extinct. Broadly speaking, sp. gr. has nothing to do with the matter; the mechanical value of an oil depends entirely on its viscosity. With hydrocarbon oils especially, the viscosity generally increases with the sp. gr.; but there is no ratio between them, and the latter property needs only to be considered in converting pounds into gallons. The viscosity of an oil to be employed in any class of bearing should be as low as is compatible with the due fulfilment of its functions as a lubricant; otherwise it absorbs part of the power put into the machine. But the viscosity of the oil, as determined at the normal temperature (60° or 70° F.) in the laboratory, does not settle the question, unless the test is carried out by someone intimately acquainted with the peculiarities of the machinery for which the oil is required; what is really necessary is to ensure that the sample possesses just sufficient viscosity (and no more) to keep the bearing-surfaces apart at the working speed, load, and temperature of the shaft or bearing. It is evident that the greater the pressure on the bearing, the more viscid the oil must be; that the more rapidly the shaft revolves (speed usually varies inversely with load), the thinner the oil; and that as viscosity decreases as temperature rises, the hotter the bearing regularly becomes, either because of its position, bad workmanship, or excessive load, the more viscid must be the lubricant at the normal testing-temperature. To give

A TOPICAL EXAMPLE,

cycle-dealers will sometimes lubricate the front hub of a machine with X.'s specially thin oil, and then show the admiring customer that the wheel will spin almost indefinitely. Now this is no real test of the efficiency of the material; in fact, it rather points the other way, and suggests that the stuff would be more suitable for a watchmaker. There is every probability that the oil which makes the unloaded wheel spin the longest is far too limpid to work well in the bottom bracket and back hub when the rider is in the saddle; and that while he is congratulating himself on the excellence of his lubrication, he is actually running with dry bearings. As a matter of fact, most cycle-oils are too thin; and it is not a bad plan to heat them up with about 5 per cent. of pure vaselin until it dissolves, so as to procure a more viscous lubricant. Another small matter affects the judicious lubrication of such instruments as cycles and sewing-machines. It is desirable that the oil shall not escape from the bearings, lest dresses and materials get soiled. A slight excess of viscosity over that which is needed to give the most economical results is thus rather an advantage, as the oil is not so likely to spread to adjacent parts.

PRACTICAL LUBRICATION

on the large scale has to be carried out in two distinct ways —in the presence or absence of steam. An oil which is perfectly safe in a sliding or revolving bearing where it is only exposed to pressure, warmth, and the action of metals, is by no means necessarily suitable for cylinder-lubrication, where the temperature is far higher, and where high-pressure steam may attack it. Lubricating-oils also (apart from some of the greases, and rosin oil, which is too crude a material for high-class lubrication) are of two kinds—the various petroleum products, which are pure hydrocarbons, and the fatty or "glyceride" oils, which are compounds of the alcohol glycerin and fatty acids, just as amylic acetate, for instance, is a compound of amyl alcohol and acetic acid. From the purely chemical point of view, the hydrocarbon oils are distinctly

THE BEST LUBRICANTS.

Outside the laboratory they cannot decompose; at the worst they can only catch fire or evaporate, and both these dangers may easily be excluded by proper selection. Under no circumstances can they attack iron or brass, nor can they give rise to products capable of injuring metals. Fatty oils, being usually more expensive, are more difficult to obtain in a state of purity, and so demand more chemical attention. They are liable to become rancid, and may develop acidity. In a steam-engine cylinder they are hydrolised or decomposed into free glycerin, which volatilises with the steam, and free fatty acid, which promptly begins to corrode the metal. When a cylinder that has been lubricated with a fatty oil for any length of time is opened, a lot of greyish-black, sticky or tarry matter will be found in the crevices. The deposit looks very much like a mixture of graphite and grease. In reality it consists of the free acids of the decomposed oil, containing a certain percentage of the corresponding iron soap which gives it its dark colour, and some free iron as well; but the presence of combined metal in the substance proves that the walls of the cylinder or the piston-rings have been attacked, and shows that in spite of the predilections of the rule-of-thumb engineer, fatty oils of whatever kind (the favourite castor oil included) are totally unsuited for cylinder-lubrication. Similar phenomena naturally occur in the case of gas-engines to a still more injurious extent; for some steam is present derived from the hydrogen in the gas, while the temperature is much more elevated, and may even cause the oil to burn and deposit carbon on the working surfaces.

Although mineral oils are thus, chemically speaking, the best lubricants, they have one physical disadvantage. Their viscosity falls off more quickly with each rise of temperature than is the case with the best non-drying fatty oils; and the Russian petroleums are worse in this respect than the American. As examples: between 60° and 80° F., sperm oil loses 36 per cent. of its viscosity; rape oil, 39 per cent.; neatsfoot, 40 per cent.; American petroleum (sp. gr. 0·913), 42 per cent.; and Russian (sp. gr. 0·909), 53 per cent. Before taking any sample of a mineral oil into use, therefore, it must be tested under precisely the same conditions as to temperature and load as will occur in its every-day employment. For the chemical reasons already indicated, fatty oils are best not used alone; if it be desired to use them at all, they should be mixed with a petroleum oil of suitable viscosity.

The obvious necessity for keeping the bearing cool has previously been alluded to; this is best effected by making the surfaces of sufficient dimensions for the heat-conducting power of the metal to come into play. When this cannot be managed, the same object may be attained by allowing a constant stream of oil to flow through the bearing, catching it as it escapes in some convenient receptacle, filtering it and using it again when it is cold.

From what has gone before, it will be apparent that there must be great difficulty in specifying exactly what grade of oil will give the best results on any particular piece of machinery, and the problem is complicated by the fact that some observers have recorded their experiments on viscosity at a temperature of 70° F., others at the more conventional one of 60°. Added to this, the subject of viscosimetry can hardly yet be said to have been systematically worked out from the practical point of view—or, at least, the figures have not been made public. Petroleum oils are so much cheaper than good non-drying fatty oils that, although in many instances a larger quantity is required to keep the bearings in the best condition, yet they are more economical to use; and when it is considered that they can be obtained in practically any degree of viscosity, from an oil not much thicker than water to a buttery paste, that if properly refined they cannot do any harm to the most delicate machinery and that they are free from any tendency to cause "spontaneous combustion" in rags and cotton-waste saturated with them, it is not easy to see why fatty oils should continue to be employed as lubricants, except for a few special purposes.

Theoretically, an engine, or a complicated machine, needs to be lubricated with a number of oils of varying viscosity, according to the load and speed of its several parts; in practice this is manifestly impossible, for they would all be used in the wrong places, and the engineer must content himself with two—one for the cylinders, and the other for the remaining parts. For all ordinary machine-bearings, shafting, &c., where the temperature does not rise far above that of the atmosphere, the American petroleums having a sp. gr. of 0·905 to 0·910, and a viscosity of about 60 to 80 (compared with rape oil, = 100 at 60° F.), may be called the normal; while, if it be desired to use Russian oils, it will be found necessary to select samples of a slightly lower density, as the latter possess a higher viscosity for a given sp. gr. than the American products. Apart from the objections already advanced, rape and lard oils also give satisfactory results for this class of machinery; but it is better to mix them with some mineral oil, as aforesaid. Bicycles may advantageously be lubricated with a petroleum oil of the same degree of viscosity, but if they are fitted with oil-retaining hubs, and these are properly supplied with oil (which is not always the case, by the way), a thinner oil will do. A chain protected by a metal gear-case, especially if it run in an oil-bath, may be lubricated like the rest of the machine, but in a leather gear-case a much thicker oil or vaselin must be used, or else one of the compositions made of blacklead and tallow or lard. A bare chain must either be run dry or with some solid grease; but it is a highly unmechanical business for road-work in this country.

For high-speed bearings, such as are found in sewing and spinning machines, petroleums of sp. gr. 0·880 to 0·900, corresponding to a viscosity of 30 to 60, and sperm oil, either alone or mixed with mineral oil, are the best lubricants. For heavy bearings, American oil of sp. gr. 0·910 to 0·920, or Russian of about 0·905 to 0·910, or castor oil should be employed; while for extreme pressures, as between gear-wheels, blacklead ground with castor oil, tallow, or lard, according to the temperature, is efficacious.

For gas and steam engine cylinders the dark cylinder "oils," having a sp. gr. of 0·900 to 0·905, and a brownish or black colour, which flash about 500° F., are better than the pale varieties possessing the higher sp. gr. of 0·925 to 0·930 and flashing about 400° F., because the viscosities of the latter are too low; but, whatever material be put into a cylinder, it must be a pure hydrocarbon, and not a "solidified oil" containing soap.

Medical Gleanings.

HYDRASTIS CANADENSIS IN BRONCHITIS.

DR. M. SAENGER has found that in the early stages of acute attacks the remedy is useless, but as soon as the expectoration loses its mucous character and becomes mucopurulent, or purulent, it is of great value by diminishing the inclination to cough, through decreasing the expectoration. The fluid extract may be given in from 20 to 30 drop-doses four times daily in sweetened water.

PROTARGOL OINTMENT.

DR. A. DARIER has not been able to get appreciable results from the simple application of protargol in cases of blepharitis and blepharo-conjunctivitis, but hopes to be more fortunate with an ointment prepared from the following formula:—

Protargol	1½ gr.
Oxide of zinc	1 gr.
Starch	1 gr.
Vaseline	15 gr.

Ointment for the eyelids.

A WISE PHYSICIAN.

DR. E. F. MCINTOSH, in the *Medical Record*, writes that he has known of fatal accidents due to the carelessness of the physician in writing an adult dose when the prescription was intended for a child or an infant. The druggist, not knowing the age of the patient, naturally compounded the prescription exactly as it was written. To obviate such a fatal error, Dr. McIntosh has printed on all his prescription-blanks:—

$$\text{This is designed for} \begin{cases} \text{an adult,} \\ \text{a child,} \\ \text{an infant.} \end{cases}$$

He draws his pen through two of these lines, the remaining one indicating for whom the prescription is intended.

BEE-POISON IMMUNITY.

THE immunity of bee-keepers from the effects of bee-stings is the subject of a paper by Dr. Langer before the Congress of German Naturalists in Brunswick. Inquiries showed that 124 bee-keepers were immune, 9 mentioning that they were naturally so to the sting of bees; 26 replied that they could not acquire immunity. The number of bee-stings necessary to produce immunity varies, 30 being sometimes sufficient, but in other cases 100 were necessary. The most favourite means of dealing with bee-stings is with liquid ammonia. Dr. Langer states that a 5-per-cent. solution of permanganate of potash will counteract the poison, and recommends an injection of a 2·5-per-cent. solution.

ANYTOLES.

STARTING from the fact that in investigating the composition of ichthyol it was found that sulphonates of hydrocarbons possess the property of making soluble in water substances which before were insoluble, Dr. F. Loeffler, of Greifswald University, has prepared a series of what he calls anytoles. The ammonia salt of hydrocarbons containing 10 per cent. of chemically-combined sulphur is the most suitable to use. The following are some of the anytoles which have been prepared:—Phenol-anytole, cresol-anytole, meta-cresol-anytole, creasote-anytole, guaiacol-anytole, benzine-anytole, eucalyptol-anytole, peppermint-anytole, wintergreen-anytole, turpentine-anytole, camphor-anytole, and iodine-anytole—all containing a good proportion of the active ingredient with anytin (the name Hehners gives to the ammonia salt of the sulphonated hydrocarbon). The obviously great advantage of having active disinfecting-agents in a soluble form has resulted in a series of experiments to determine the bactericidal powers of anytoles, and has proved the superiority of the anytole over the disinfectant substances they contain. The two preparations, cresol-anytole and anytin, may prove advantageous in the local treatment of diphtheria, as the diphtheria streptococcus is readily affected by these agents, which have, however, very little action on the mucous membranes. Clinical trials which are being made are of great promise from a therapeutical point of view.

"Pharmaceutical Formulas."

The New "C. and D." Book of Recipes.

Price, 7*s.* 6*d.*; *by post*, 8*s.*

THE first edition is out of print. The sheets of the second edition are now in the binders' hands, and orders will be executed as expeditiously as possible. The reception of the new book is gratifying, and we have to acknowledge the receipt of many appreciative letters from those who have obtained the volume. The second edition is a reprint of the first, the errors mentioned in the *C. & D.*, page 847, having been corrected. The *Pharmaceutical Journal*, in the course of an appreciative review of the book, says it

> "is a book that fully justifies its sub-title of 'A Book of Useful Recipes for the Drug-trade.' From the multitudinous formulas published by the journal he so ably represents, the author has selected a very large number with care and discretion. He has then conveniently classified them, provided a pithy and concise introduction to each section, and last, but far from least, he has rounded off the work of collation by annotating the formulas in a distinctly practical manner. Although the compiler is careful to disclaim the suggestion that the book is a treatise on practical pharmacy, the hand of the practical pharmacist is visible throughout, and whether it be the preparation of a skin-lotion, tooth-paste, effervescent drink, furniture-polish, or some unofficial galenical preparation, no one is likely to delve in this mine of information without finding something at least approaching what he requires."

Will provincial chemists please note that we cannot send the book for inclosure to wholesale houses? If they wish to save the postage, they have only to order the book from one of their wholesale houses. The following firms sell it at the net price, 7*s.* 6*d.*:—

Allison, E. & H. (Limited), Hull
Anderson & Co., Edinburgh
Ayrton & Saunders, Liverpool
Barclay & Sons (Limited), London
Bleasdale (Limited), York
Boilean & Boyd (Limited), Dublin
Brown Brothers & Co., Glasgow
Butler & Crispe, London
Clay, Dod & Co., Liverpool
Davidson & Gray, Dundee
Duncan, Flockhart & Co., Edinburgh
Edwards, Wm., & Son, Queen Victoria Street, E.C.
Evans, Lescher & Webb, London
Evans, Sons & Co., Liverpool
Fletcher, Fletcher & Co., Holloway, N.
Ford, Shapland & Co., London
Fraser & Green, Glasgow
Glasgow Apothecaries' Company, Glasgow
Goodall, Backhouse & Co., Leeds
Hatrick, W. & R., & Co., Glasgow.
Hirst, Brooke & Hirst (Limited), Leeds
Ismay, John, & Sons, Newcastle-on-Tyne
Kemp, W., & Son, Horncastle
Lennon, B. G., & Co. (Limited), London
Lewis, H. K., 136 Gower Street, W.C.
Lofthouse & Saltmer, Hull.
Lynch & Co. (Limited), Aldersgate Street, E.C.
Maw, S., Son & Thompson, London
May, Roberts & Co., London
Newbery, F., & Sons, London
Oldfield, Pattinson & Co., Manchester
Pinkerton, Gibson & Co., Edinburgh
Potter & Clarke, London
Raimes, Clark & Co., Edinburgh
Raimes & Co., York
Sanger, J., & Sons, London
Smith, T. & H., & Co., Edinburgh
Stevenson, H. E., & Co., 130 Southwark Street, S.E.
Sutton & Co., Chiswell Street, E.C.
Thompson, John (Limited), Liverpool
Wilkinson & Simpson (Limited), Newcastle-on-Tyne
Wilson & Co., Bradford
Woolley, J., Sons & Co. (Limited), Manchester
Wright, Layman & Umney, Southwark Street, S.E.
Wyleys (Limited), Coventry

"I CONGRATULATE YOU on 'Pharmaceutical Formulas.' It is simply unique in its excellence. Though it cost me ninety pence, I confidently anticipate to make ninety pounds from it."—DR. J. C. MCWALTER, L.P.S.I. (Dublin).

Photographic Notes.

BY A PHARMACEUTICAL CAMERIST.

The new

WARRICK PLATES

made by the Warrick Dry-plate Company, Warwick, are being pushed forward in a very business-like manner. My notice was first called to them by inquiries about the monthly competitions they are organising, and one of my customers, having been so fortunate as to win a prize, is recommending the plates right and left. I have stocked them, and before long hope to put them through a course of experimental tests.

PHOTOGRAPHY FOR ARTISTS.

I have been trying a process of making line drawings from photographs which was brought to my notice by a customer. The print is prepared on platino-bromide paper, and after fixing and washing it is ready to draw on. The ink used needs to be a waterproof kind; artists' black answers best of all. When the drawing is dry the print is immersed in the following solution, which dissolves off the silver image:—

Potassium cyanide	ʒij.
Iodine	gr. xx.
Water	℥xx.

Afterwards well wash and dry. Extra work can be added afterwards if required. The surface is a fine one for drawing on. If it is desired to save time the picture need not be fixed, in which case, after development and rinsing, it should be placed in a 10-per-cent. solution of potassium bromide for a minute previous to drying.

I saw in the *Scientific American* a good idea for

DEVELOPING STRIPS OF FILM.

It consists of a board having movable pegs stuck in it; the strip of film is fixed, emulsion-side outwards, round the pegs; and, for developing, the whole is lowered into a dish sufficiently deep to completely cover the film. When developed, the film can be washed and fixed without removing from this support, and even dried *in situ*, although I find the better plan is to pin the strip (film-side upwards) on a board till dry.

I have been received lately the following

CATALOGUES AND PRICE-LISTS.

Mr. Ellis, photographic chemist, South Shields, has got out a retail "price current" of photographic apparatus and materials which is a model of completeness. It runs to 179 pages and includes everything necessary for photography and lantern-work. At the end there are tables of weights and measures which amateurs will appreciate, as this is a matter they are often shaky on.

Wyatt & Co., pharmaceutical chemists, Lancaster, issue an abridged photographic list which contains all things in general use by amateurs. The list has, in addition, a guide to a week's photography in and around Lancaster—a useful feature which other photographic chemists might take a hint from.

B. Lowe & Co., 2 Warstone Parade, Birmingham (and 89 Hatton Garden, E.C.), are sending out their new trade catalogue of cameras, tripods, and dark-room lamps. The cameras range from 1*s*. upwards. This firm also put up toning-solution, developer, plates, &c., for retailing in small quantities. Chemists doing photographic trade with small-boy customers would find it a useful catalogue to have.

Ross, Limited (111 New Bond Street, W.), have issued a new edition of their catalogue. Chemist dealers will find it a handy list to have by them, as the goods listed are of the very best quality and bear substantial profits.

Elliott & Son's (Barnet) new price-list of Barnet plates and papers contains some alterations in prices. Bromide paper and snow enamel paper is now put up in smaller size packets. The list of carbon-tissue requirements at the end is a complete one, and useful to those who do anything in this popular printing-process.

DARK-ROOMS.

[The following chemists stock photographic goods, and some in addition have dark-rooms available. This list continues the one begun in the 1896 DIARY and continued at intervals since.]

Belfast: Jas. Hogg, The Eagle Pharmacy, York Street.
Hitchin: Wm. Payne, The Modern Pharmacy, 2 High Street, Market Place.
Kentish Town, N.W.: Lewis & Burrows, 337 Kentish Town Road, N.W.
Kettering: Hitchman's Photographic Stores. Gold Street Pharmacy.
Mirfield: Chas. Crook.
Northallerton: H. Fairburn, Market Place.
N. Berwick—Gardner & Ainslie, 107 High Street.
Rochdale—J. Monk-Jones, Booth's pharmacy, 78 Yorkshire Street.
Sheffield: J. Gilbert Jackson, 338 Abbeydale Road.
Surbiton: J. P. Jackson, pharmaceutical chemist, 68 Brighton Road. (Also gives lessons if required.)
Tring: G. G. Jeffery.
Tyldesley—A. E. Bennett.

Lead Poisoning.

A GROUP FROM THE POTTERIES.

"Paralysis and blindness."

AS will be seen from our abstract of the Registrar-General's report on another page, lead figures among the most fatal of our poisons. The deaths occur principally in the Potteries, and it is not death only which is the result of working in this industry. A group of sufferers was brought up to London the other day to be introduced to the Home Secretary in support of the effort now being made to substitute something less dangerous than lead in the manufacture. At the side we show a sketch of the group, which we borrow from the *Westminster Gazette*. It is satisfactory to learn that Dr. Thorpe, principal of the Government Laboratory, and Dr. Oliver have been appointed to study the subject of substitutes for lead in the earthenware manufacture, and we hope their investigations will bear fruit.

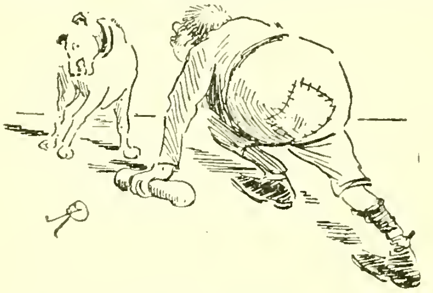
Confessions of an Errand-boy.

II.

The Errand-boy on Ass-a-feet-ida.

THIS vile-stinking drug, made from the feet of Egyptian asses, and brought over to this country by still fouler camels (which have to be blindfolded, or they jib), is used in his-terrier of women, and I have been trying it on master's fox-terrier, which is a little devil. This is what I find :—

1st. Be careful, when catching the animal, to have your breeches' seat in a northerly direction to your patient, who must face you from the south. Then coax the brute by a few kind words. Now grab him, and see he don't grab you. The rest is like simple syrup : prop his jaw open with a powder-folder, and ram your bolus of ass-a-feet-ida down his throat with your pocket-knife. But here are my notes :—



Saturday, 11 A.M.—Eyes bulging, smoking hot tears (hacid to litemouse paper), trys to lick the top of his head, but can't get his tongue out far enough. Prances his feet in the air, hic-cups awfully.

12.—Shivers till he shakes his collar off, rushes round room, sits down, thinks a bit, then up, sniffs every blessed corner of room, as if he was a plumber finding a gas *leak*, sits, again thinks. Walks slowly round room, as stalking a rat.

1 o'clock.—Master rings bell, asks Mary what she means by boiling onions at this time of day.

Customers all walking into the shop in high prancing sort of a way, as if they were going up stairs, complain of vile smell and headache.

1.30.—Dog rushes past them thro' the shop into street.

5 P.M.—Returns with about forty dogs of assorted sizes, including a damnation dog and a "cut down."

Master uses unpolite language to me, threatens to sack me if ever I let the brute out again.

N.B.—Fortune here! Must see doggy-men about ass-a-feet-ida—much more seducktive than father's recipe, which is as follows :—

Bit of liver.
Sew well into bottom of trousers-leg.
Fiat walk. Cap. sæp. catchem canem.

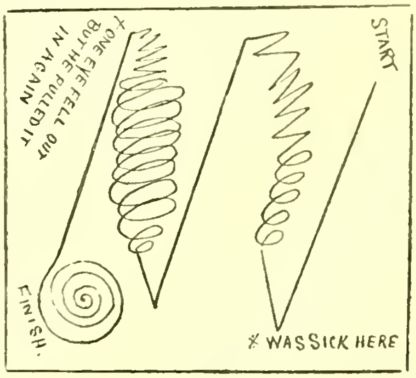
III.—The Errand-boy on Hat-rope-ine.

Hat-rope-ine is got from belly-donna (meaning a gift to the stomack). It is found in icicular cri-stalls, and cannot be told from queen-nine hunless you rub it in your hye. Real ladies use it to make their pupils look larger than they really are. It dilates them. This is beastly mean, as when a parient comes to see how er hoff-spring is going along, the missus of the schoile uses this drug and dilates them.

A DILATED PUPIL.

Now I tried rubbing some in the cat Hi-o-doc-form's hye, and very curious was the heffect : he went round in suckeles and then shot hoff in strait lines, and seemed like master very hactive.

In horder to see if I could discover hanythink remarkable in his movements, I soaked his posterior with red ink and sot him down on some large sheets of white paper. Here is a plan of his tracks.


START
✗ WAS SICK HERE
✗ ONE EYE FELL OUT BUT HE PULLED IT IN AGAIN
FINISH.

Poor Hi-o-doe-form had a very pained hexpression (the sort of look master took on when he saw the new B.P.) when the shoot and twizzle heffect had gone off.

Fred. Reynolds.

Commercial Notes.

JAVANESE SOAP.

The soap-industry is in a flourishing condition in Java, says H.M. Consul there, and the production as well as the consumption of native-made soap is yearly increasing, to the detriment of the cheaper qualities of soap of British manufacture, of which only small imports are now made. Cannot this be remedied by British makers?

IMPORTS OF WAX INTO HAMBURG.

A statement has been published of the imports of bees-wax in Hamburg during last year. The total of 969,900 kilos. was imported, this being almost 50 per cent. more than in the preceding year. The following are the sources of the wax, and the quantities (in tons) imported from each placc:—

	1897	1896
Chili, Brazil, and Argentine	150	107
West Indies and Cuba	154	152
Benguela	41	27
Angola	45	20
Bissao (W.C. Africa)	67	73
Madagascar	79	29
Mozambique-Zanzibar...	200	148
Morocco	94	37
Senegal	26	—
California and North America ...	13	21
Levant	8	13
Portugal	85	—
Sweden	45	35
Tunis	6	—
Mexico	—	2
Spain	12	6
Italy	4	—
Abyssinia	9	—
Lindi (W. C. Africa)	46	—

FOREIGN TRADE WITH SOUTH AFRICA.

During 1897 the total oversea imports into South Africa amounted to 26,573,689*l.*, or an increase of 1,495,316*l.* over the value of the imports for the previous year. These are the highest figures yet recorded, and when it is remembered that last year was one of great depression in South Africa, the fact that she is able to increase her purchasing powers by nearly a million and a half sterling is proof of the latent vitality of the country. Great Britain's share of the above imports was valued at 17,011,787*l.*, or an increase of 582,082*l.* on the shipments for 1896. The United States exported goods to the value of 2,747,134*l.*, an increase of 335,484*l.*, and Holland 281,840*l.*, against 225,990*l.* Germany's share of the trade, which has successively doubled itself for the six years ending 1896, for the first time shows a diminution, the figures being 1,054,266*l.*, against 1,266,537*l.* for the previous year. Exports from Belgium and France have also declined from 373,861*l.* to 300,778*l.*, and 146,390*l.* to 119,388*l.* respectively. These statistics reveal the fact that the participation of three of the most active of our European competitors in that market is in a decreasing ratio.

OPENINGS IN ITALY.

A Leghorn report (For. Off., No. 2,075, 1½*d.*) states that there is a good demand there for carbonate of soda, but there is room for further development. Competition in the article is keen. The crystal soda is wanted chiefly for soap and glass works. Sulphate of copper is another product in which an increased business is being done. The imports for 1897 were 3,667 tons (62 537*l.*), against 2,931 tons (47,613*l.*) in 1896, and 808 tons (14,757*l.*) in 1891. The sulphate is used in viticulture for preventing blight. An application of sulphur is first made, then the vines are treated with Bordeaux mixture (copper sulphate, lime, and water). The Consul says there is room for more business if a good agent could be got in Tuscany. Export business in boric acid was poor in 1897, and in consequence more borax was exported, the acid being converted into borax when the demand for the former is low. The pumice-stone industry is fast leaving Leghorn, and Messina is beginning to take its place, as the Lipari Islands, from which the bulk of it comes, are much nearer to that port. As much as 2*l.* per ton was paid in 1897 for the small stone used for grinding, and 30*l.* per ton for light and porous stone. A good trade in Italian wax is done at Leghorn, about 94 tons being exported. The British Consul speaks well of the firms who deal in that article.

CHEMICALS FOR ROUMANIA.

There seems to be an opportunity for greater energy in pushing British goods in Roumania. The volume of imports and exports between Gralatz and Great Britain is equal to between seven and eight millions a year. Amongst the goods which Gralatz buys from us, and which might be increased with judicious pushing are the following, the figures representing the values imported from this country in 1896:—

	£
Oxide of zinc, lead, &c....	42,383
Soda—caustic, bicarbonate, carbonate, &c....	36,895
Varnishes and drying-oils	32,981
Resin, tar, pitch, &c.	14,386
Tea	10,660
Vegetable oils	9,697

What we buy from Gralatz is grain—four million pounds worth of it of various kinds a year. Speaking of the trade of Braila, and the possibility of British firms getting a better share of it, H M. Vice-Consul for that district says:—

> A general shop in these parts is a museum of imitations, any of which might fetch the value of the genuine article, as all purchase is a matter of bargaining, the fixed price being a thing unknown. A tour of inspection through the shops would show many forms of goods claimed to have British origin, and as such priced highly, which are really gross imitations. These are most varied, and run from knives to pins, soft stuffs, boot-polishes, even to whiskies. With regard to the last, the proprietor of an important establishment in the town will tell anyone in search of a particular label that it does not really matter taking that specific brand or any other in the shop, as he had bottled them all out of the same cask.

CHINESE TRADE.

U.S.A.

The trade between the United States and China is the subject of a British Consular Report (For. Off., No. 455, price 1*d.*), from which it appears that the total imports from China for the year ending June, 1897, were 4,265,000*l.*, against 3,627,000*l* in 1888; the total exports to China were 3,596,000*l.*, against 1,586,000*l.* The export-trade from the U.S. to China has increased by 126 per cent in ten years. The following table gives the share of the Chinese market which has been secured by the United States, compared with the shares which Great Britain and Germany have:—

United Kingdom ...	1896	8,540,000*l.*
United States ...	1897 (year ending June) ...	3,596,000*l.*
Germany	1896	2,264,000*l.*

The report contains nothing of direct interest to the drug-trade beyond the fact that the exports of chemicals, dyes, &c. (including ginseng) from the U.S. to China amounted to over $1,000.000 (200,000*l.*) in 1897. Besides this is a note on the petroleum-oil trade, which shows that America has quite regained her hold of the Chinese market as against Russia, which in 1895 had outstripped America by 3½ million gallons.

Opium.

Green Tea.

Mr. Consul Playfair, writing from Ningpo on a recent date, mentions (For Off. Report, No. 2073, ½*d.*) that the quantity of Malwa opium imported in 1897 was 4,536 cwt., valued at 370,534*l.*, compared with 5,819 cwt., valued at 469,997*l.*, in 1896. The imports of Patna opium rose to 153 cwts. (12 221*l.*), against 129 cwt. (10,049*l.*) in 1896. The decrease in Indian opium imports is attributed to the opening of Hangchow as a Treaty port. The consumption of this opium appears to be as great as ever, though the demand for the Benares kind has fallen away. Among other imports were white wax 13,426*l.*, against 16,259*l.* in 1896. Native medicines were imported to the value of 60,658*l.*, and wood-oil 7,327*l.* As regards exports, medicines figure for 42,224*l.* and cuttle-fish for 35,102*l.* Speaking of a decrease in the exportation of green tea, Mr. Playfair remarks that one reason for the diminution is that the article has been so badly made, so adulterated with foreign bodies, that in 1897, of the amount exported to America, where its chief market is, no less than 13,000 000 lbs. were returned to China as unfit for consumption.

Trade Report.

Notice to Retail Buyers.

It should be remembered that the quotations in this section are invariably the lowest net cash prices actually paid for large quantities in bulk, and, for crude drugs, without charges. For fuller particulars see the article "Lowest Trade Terms" in THE CHEMIST AND DRUGGIST, March 19, 1898, p. 473.

42 CANNON STREET, E.C., *May* 26.

BUSINESS has been slow this week, and there are few changes to report. The cinchona-sales on Tuesday passed off quietly, values on the whole being maintained, and heavy purchases made. The drug-sales to-day were uninteresting. Owing to Derby-day the exhibits were made on Tuesday as well as Wednesday. The sales are reported on page 886. The following are the principal changes, which are noted fully in succeeding paragraphs:—

Higher	Firmer	Lower
Acid, citric	Cocaine	Balsam copaiba
Chiretta	Cuttlefish	Calumba
Croton-seeds	Glycerin	Cardamoms
Cumarin	Morphia	Colocynth
Insect-flowers	Shellac	Myrrh
Isinglass		Sarsaparilla
Oil, star-anise		
Sulphur		
Wax (bees')		
Wax, Japan		

CABLEGRAMS.

BERGEN, May 26, 11 25 A.M.:—No change has taken place in the Finmarken fishing. The results up to this morning are very poor. The total catch of cod from the beginning of the season at all the fisheries is 34,061,000, as compared with 51,762,000 last year, and the yield of oil is 20,400 barrels, against 26,856 barrels. This market shows a slightly firmer tendency, and to-day's quotation for pure medicinal oil is 81*s.* per barrel, f.o.b.

* * * *

HAMBURG, May 25, 12 24 P.M.:—Cascara sagrada is in small supply and firmer, at 38m. per 100 kilos. Honey is also firmer; while castor oil is quiet and easier, at 60m. per 100 kilos., and June-July shipment at 58½m.

* * * *

NEW YORK, May 26, 2.47 P.M.:—The market is dull, and little business of any kind is passing. Quinine is easier at 24c. per oz. Balsam tolu in fair supply, and sellers are disposed to part more freely with it at 42c. per lb. Fair Truxillo coca-leaves are offered at 12c. per lb. Opium is firm, but unchanged in price, and senna is advancing, 8c. to 15c. per lb. having been paid for Tinnevelly, according to quality. Beeswax is becoming scarce and is difficult to buy at 31c. to 33c. per lb. The market for Mexican sarsaparilla is dull at 7¾c. On the other hand, Jamaica ginger is much firmer, 18c. to 20c. being to-day's price.

Java Quinine. We have no desire to supersatiate those who read this report with facts about the Java quinine-factories; still, we cannot overlook the circumstance that Mr. Consul Davids, in his report to the Foreign Office (No. 2,095, 1½*d.*), mentions the matter, stating that the planters have seen that the policy of sending their bark to Europe was "a mistaken one, and a number of them are now affording the local manufactory good support, and are giving it a considerable share of their bark for manipulation, so that the enterprise is confidently expected to be a success." There is nothing in this quotation which we have not already reported, but it has the distinction, if any, of coming from a British Blue Book.

Balsams. H.M. Vice-Consul at Barranquilla (Panama), in a recent report, states that the copaiba-tree grows to a height of 40 feet or so. The balsam is obtained by making a tolerably deep cup-like incision in the lower part of the trunk on the eastern side of the tree, and a correspondingly deep cup at the upper extremity, when the sap flows out readily through the lower incision, and is received into pans placed below for this purpose. On an average a tree yields 8 lbs. of balsam, the maximum being 25 lbs. A tree once tapped can no longer be counted on to yield balsam, and is invariably converted into lumber. In 1897 Barranquilla exported 357 packages of the balsam. The tree which yields Tolu balsam can be tapped annually, and is now under cultivation in the district. Of this balsam 736 packages, valued at 6,062*l.*, were exported. We also observe from the report of our Vice-Consul at Maracaibo that in 1897 22,467 lbs. of copaiba were exported, against 12,450 lbs. in 1896.

ARRIVALS.

THE following is a list of the principal drugs which have arrived in the port of London, and other large ports in England, since May 20. The figures indicate the number of original packages (bales, casks, &c.):—

Aloes (E. I.)	136	Ipecacuanha	16
Aniseed	134	Kola	55
Benzoin	394	Liquorice	8
Calumba	110	Manna	6
Camphor	2	Musk	1
Cassia fistula	10	Oil, castor	136
Cinchona	209	Oil, cod-liver	64
Copaiba	6	Oil, eucalyptus	16
Cubebs	24	Oil, lemongrass	3
Cumin-seed	10	Opium	120
Fennel-seed	104	Quicksilver	100
Galls, Chinese	140	Quinine	15
Gamboge	13	Sarsaparilla	3
Gum arabic	439	Turmeric	94
Gum obibanum	532	Wax, bees'	650
Honey	321	Wax, Japan	21
Insect-powder	40		

ACETANILIDE.—Quiet. The talked-of combination between manufacturers does not appear to have been brought about, and sellers are not making progress. It is doubtful whether the present quotation of 1*s.* 2*d.* could now be obtained. The price on the Continent for this article is 275m. per 100 kilos. that is 1*s.* 2¼*d.* per lb.

ACETONE is unchanged, but firmly held at previous quotations. Tenders have been sent out by the Government for 70 tons.

ACID, CITRIC.—Dearer, 1*s.* 1*d.* having been paid on the spot for crystals; no sellers forward. The shipments of concentrated lemon-juice and bergamot juice from Messina in April amounted to 649 pipes. The former has advanced recently, stocks being smaller than last year; 13*l.* "c. & f." is now asked.

ACID, TARTARIC.—Firm. Foreign crystals are 1*s.* 0¾*d.*, and English 1*s.* 1*d.* per lb.

BALSAM, PERU.—This commodity is very scarce at present, none being held in London by brokers, and second-hand holders are dealing it out sparingly. The reason of the scarcity is not precisely known, but it is believed that difficulty of shipment is the most probable cause, and evidence is given to that belief by the fact that much, if not all the balsam, is shipped by one exporter who looks well after the industry. The present price, 9*s.* 6*d.* per lb., is higher than has been paid since 1883, when 7*s.* 9*d.* to 13*s.* was paid in London, but in 1882 17*s.* per lb. was touched. No relief of the present impoverished state of the market is expected until the war ceases.

BELLADONNA-ROOT.—Firm. Business has been done this week in good German root at 42*s.* per cwt., "c.i.f.," and one holder is now asking 44*s.*

CAMPHOR.—Refined is in good demand, at unchanged values.

CASSIA LIGNEA.—The Chinese stock is estimated at less than 3,000 piculs. Old standard in boxes is quoted at

36*s.* 9*d.* per cwt. c.i·f., in bales 35*s.*; new standard, 39*s.* in boxes and 37*s.* in bales. Selected cassia, 43*s.* 6*d.*, c.i.f., steamer shipment, 42*s.* sailer. Broken cassia, old standard 23*s.* to 24*s.*, c.i.f., and selected 32*s.* 6*d.* to 34*s.* per cwt.

CINCHONA.—At the periodical cinchona auctions in London on Tuesday the exceptionally large quantity of 4,145 packages (against 2,230 packages in April) was offered by eleven brokers, divided as follows:—

	Packages.		Packages.	
East Indian cinchona...	3,290	of which	2,166	were sold.
Java cinchona... ...	351	„	—	„
Ceylon cinchona ...	249	„	169	„
African cinchona ...	174	„	174	„
South American cinchona	81	„	81	„
	4,145		2,590	

East Indian bark, as will be seen from the above table, was again in large supply. A good demand prevailed at slightly easier prices for Ledger and Crown barks, the average unit obtained being $\frac{3}{4}$*d.* to $\frac{7}{8}$*d.*, except for the Succirubra variety, the prices of which were fully maintained. The following figures represent the approximate quantities of bark purchased by the principal buyers:—

	Lbs.
Agents for the American and Italian works ...	237,355
Agents for the Mannheim and Amsterdam works	101,190
Messrs. Howards & Sons	50,285
Agents for the Brunswick quinine-works ...	46,450
Agents for the Paris works...	33,550
Agents for the Frankfort and Stuttgart works ...	32,000
Agents for the Imperial Quinine Company ...	2,785
Agents for the Auerbach factory	—
Druggists, brokers, &c...	95,875
Total quantity sold	599,390
Bought in or withdrawn ...	343,385
Total quantity of bark offered ...	942,775

Since the sales additional purchases have been made on account of the American and Mannheim factories.

The following prices were realised:—*East Indian*, red chips and shavings, $1\frac{3}{4}$*d.* to $2\frac{1}{2}$*d.* per lb.; fair to good, $3\frac{1}{8}$*d.* to $3\frac{3}{8}$*d.*; root, 2*d.* to $3\frac{1}{2}$*d.*; poor renewed stem chips and shavings, $1\frac{3}{4}$*d.* to $2\frac{1}{8}$*d.*; good, $2\frac{1}{4}$*d.* to $2\frac{7}{8}$*d.* Crown, original stem chips, $1\frac{3}{4}$*d.* to $3\frac{3}{4}$*d.*; renewed, $2\frac{3}{4}$*d.* to $4\frac{3}{8}$*d.*; red original stem, $1\frac{3}{4}$*d.* to $2\frac{3}{4}$*d.*; branch, $1\frac{5}{8}$*d.* to $3\frac{3}{8}$*d.*; renewed, $1\frac{3}{4}$*d.* to $2\frac{3}{8}$*d.*; bold quill, $3\frac{1}{4}$*d.* to 6*d.*; broken quill, $2\frac{1}{2}$*d.* to $3\frac{7}{8}$*d.* Hybrid, original stem, $3\frac{1}{4}$*d.* to $3\frac{1}{2}$*d.* per lb. *Java*: 351 bags of ledger stem-chips were taken out. *African*: All sold at 4*d.* to $4\frac{1}{4}$*d.* for bold chips, and quills at $3\frac{3}{4}$*d.* to 4*d.* *South American*: 81 bales Bolivian cultivated calisaya quill sold at 5*d.* to $5\frac{1}{2}$*d.*, down to $3\frac{1}{2}$*d.* for flat, country damaged. *Ceylon*: Ledgeriana original stem-chips, $4\frac{1}{8}$*d.*; branch, $2\frac{3}{8}$*d.* Crown, stem, $2\frac{3}{4}$*d.* to 3*d.*; branch, $2\frac{1}{2}$*d.*; and red broken quill at $2\frac{5}{8}$*d.*

Mr. W. W. Green (Messrs. Brookes & Green) publicly announced in the course of the sales that the Committee of the London General Produce Brokers' Association had asked him to acknowledge the receipt of Mr. David Howard's resolution relating to the better classification of cinchona bark, which was brought forward at the April cinchona sales. The Committee, said Mr. Green, had discussed the matter once, with the result that a sub-committee had been appointed to further consider the matter. This sub-committee purposes to meet on May 27. The next auctions in London will be held on June 21.

CIVET.—In fair demand, at 13*s.* to 14*s.* per oz. for a good quality.

COCAINE is in the same firm position of last week, the quotations for good brands remaining at 9*s.* 6*d.* to 9*s.* 9*d.* for hydrochloride, with only a small quantity offering. The crude alkaloid has advanced in price, and only the keen competition amongst refiners has prevented a rise in the hydrochloride.

CUMARIN.—The price has recently been raised—1*s.* 7*d.* to 1*s.* 8*d.* per oz. being the range in price.

DAMIANA-LEAVES are scarce in New York. The entire crop is in, which latter is short; 11c. to 12c. is quoted, but the market is expected to reach 14c. to 15c. The entire stock of leaves in the United States does not exceed 3 or 4 tons, as compared with 10 to 15 tons a year ago.

ETHER.—The following are the quotations for methylated:—Sp. gr. ·750, 8*d.* per lb.; sp. gr. ·730, $8\frac{1}{4}$*d.* per lb.; sp. gr. ·725, $10\frac{1}{4}$*d.* per lb.; sp. gr. ·720, 1*s.* $0\frac{1}{4}$*d.* per lb.; sp. gr. ·717, 1*s.* $3\frac{3}{4}$*d.* per lb.; triple rect., sp. gr. ·725, 1*s.* 3*d.* per lb.

GLYCERIN.—Firmer, but quotations for distilled are unchanged. Crude has advanced by 6 per cent. in consequence of the increased demand for dynamite purposes, and some German makers are unwilling sellers.

INSECT-FLOWERS.—The better qualities are scarce and dear, and are likely to go still dearer, the supply in Trieste being small. There is a fair stock of "open" flowers, and "half-open" are a steady market. Business has been much hindered through the comparative absence of buying for the United States, and it is supposed that Californian-grown flowers have had a chance this spring. The present quotations are, for "closed" flowers, 90*s.* to 125*s.* per cwt., according to quality; "half-open," 70*s.* to 75*s.*; and "open," 46*s.* to 57*s.* 6*d.*, "c.i.f."

ISINGLASS.—At the periodical auctions on Wednesday 700 packages were offered, and about half changed hands at irregular prices. Bombay kinds were limited at higher prices, and mostly bought in. Brazilian all sold, at about previous rates. Penang leaf was in good demand and dearer, but tongue was slightly easier.

MANNA.—The following are the latest prices from Messina. Best flake, in 20-lb. boxes, 1*s.* 11*d.* per lb., f.o.b.; usual boxes, 1*s.* 6*d.*; superfine, $8\frac{1}{2}$*d.*; and sorts, $6\frac{1}{2}$*d.* per lb.

MORPHIA.—Firmer, the muriate in powder being quoted at 4*s.* 6*d.* per oz. nominally.

OIL, CASSIA.—Oil containing 70 to 75 per cent. is offered at 4*s.* 1*d.*, c.i.f.; 75 to 80 per cent., 4*s.* 3*d.*; and 80 to 85 per cent., 4*s.* 5*d.* per lb.

OIL, COD-LIVER.—Business is at a standstill, and there is no quotable change in price. The Finmarken fishing, according to our correspondent in Bergen, who wrote on May 21, is very poor, and looks like coming to an end. The catch up to May 16 was 3,700,000, as compared with 4,600,000 last year, and the yield of oil will not be more than 1,294 barrels, as compared with 1,300 last year. In 1896 the catch in Finmarken for the corresponding period produced 5,126 barrels. The Bergen market is quiet and unchanged, the total exports to date being 3,652 barrels.

OIL, PEPPERMINT.—American HGH is quiet, though firm, at 5*s.* $7\frac{1}{2}$*d.* per lb. c.i.f., but considerable sales have been made at 5*s.* 6*d.* to arrive; Wayne County is 3*s.* 9*d.*, c.i.f. terms. Reports from the growing districts in America with regard to the acreage of the next peppermint crop are very conflicting. Some of the leading distillers anticipate an increased acreage this year, while others say that, owing to the low price of oil, the acreage will be small. Producers in Wayne County report that roots generally wintered well, and farmers will commence sowing their new acreage at least three weeks earlier than usual, as early plantings have always yielded better crops than late plantings. In Michigan and Indiana Counties the general impression is that comparatively little new mint will be planted.

OIL, STAR-ANISE.—Dearer. Purchases of 100 cases for America are reported, and 6*s.* 5*d.* to 6*s.* 6*d.* per lb., c.i.f., has been paid, but 6*s.* $7\frac{1}{2}$*d.* is now wanted. Spot business has been done at prices up to 6*s.* 9*d.* per lb., and 6*s.* 10*d.* is wanted. For arrival, June-July steamer, 6*s.* 4*d.* to 6*s.* 5*d.*, "c.i.f.," is asked, in second hands, according to seller.

OPIUM.—The London market continues firm, but business has slackened off. Persian is quoted at 10*s.* to 11*s.* 6*d.* per lb., according to quality. Turkey, soft-shipping, 11*s.* to 12*s.*; seconds, 8*s.* 6*d.* to 10*s.*; and seconds "druggists'," 9*s.* to 9*s.* 9*d.* per lb. Our Smyrna correspondent, writing on May 19, states that owing to prices having advanced in America, and to needy holders accepting a reduction, buyers for that country came forward and secured 100 cases of current talequale at 9*s.* 6*d.* per lb., f.o.b., Karahissar at 9*s.* 8*d.*, and Yerli talequale at 10*s.* No other transactions of importance have occurred.

ORRIS.—None was offered at auction to-day. Privately it is reported from Leghorn that growers of Florentine orris have entered into a combination with the view of raising prices to a more remunerative level. Already orders for the new crop are said to have been placed at much higher prices. The following are the latest quotations from Leghorn:—Selected Florentine 40*s.* per cwt., small white 37*s.*; Verona, from 22*s.* to 27*s.* for extra super, "c.i.f." terms.

PHENACETIN.—Other makers than Bayer want 3*s.* 9*d.* to 4*s.* per lb., and it is stated that brands offering at 3*s.* 6*d.* per lb. are of questionable quality.

POTASH PERMANGANATE.—There has been more demand recently, and deliveries off contract have been moving more freely. Small crystals are quoted at 58*s.* per cwt. for ton lots.

QUICKSILVER.—There is no second-hand metal offered, and 7*l.* 12*s.* 6*d.* is the ruling price, but the market closes very firm.

QUININE.—The market is quiet, but steady. Early in the week new German sulpbate was sold at $10\frac{3}{4}$*d.* per oz. for July-August delivery; on the spot there are buyers at $10\frac{1}{2}$*d.* Business has also been done at 10*d.* for old manufacture.

SAFFRON.—Dearer in Spain owing to the exceptionally low rate of exchange. There is no change in London values up to the present., but the market closes verv firm.

SEEDS.—*Coriander* is still pressed for sale, and large quantities of old crop Morocco and Tunis seed have changed hands at about 7*s.* per cwt.; consumers are buying; there is no speculative demand. There is a steady business passing in *Canary-seed*; River Plate, at 25*s.*; Turkish, 27*s.*; common to fine Barbary, 28*s.* to 31*s.*; ordinary to bold Spanish, 33*s.* to 44*s.* per quarter. *Caraway* firm at late quotation. Sales of *Cumin* are reported, of Mogador at 23*s.*, and of Malta at 29*s.* per cwt. *Fenugreek*, steady. *Aniseed*, no demand.

SENEGA ROOT.—Fair Western root is firmly held at 1*s.* 2*d.* per lb. on the spot. The New York market has advanced slightly, and is temporarily firm. Stocks are unusually heavy, but the prime cost of the drug being near the present selling price, holders only offer in small lots; Manitoba and Minnesota are quoted at 23*s.* to 24 cents respectively. The exports to Europe have been unusually light, owing to the mild weather.

SHELLAC.—Business this week has been slow with small sales on the spot at about previous rates. For delivery there are sellers of TN. April-June shipment at 60*s.* per cwt. "c.i.f." and August delivery at 64*s.* Transactions include A C. Garnet at 69*s.* for fine quality and 70*s.* for worked: second orange, 61*s.* for fair TN up to 78*s.* for fine.

SPICES.—As usual duiing the Epsom race-week no public sales have been held, and the market generally has been quiet. A fair speculative business has taken place in Singapore black *Pepper* at steady prices, 4*d.* on the spot, and $4\frac{3}{16}$*d.* to $4\frac{9}{32}$*d.* to arrive, according to position. White also quiet, but firm, at $6\frac{7}{8}$*d.* for Penang, and $7\frac{7}{8}$*d.* for Singapore, distant shipment. Zanzibar *Cloves* are a little easier than our last quotation, June–August delivery being done at $3\frac{3}{4}$*d.*, and October–December at $3\frac{15}{16}$*d.* per lb. Cochin *Ginger* in small demand, without change in value. Some Japan has sold privately at 16*s.* 6*d.* per cwt.; but the quotation to arrive is 19*s.* c.i f. terms. From all accounts the Bengal crop will be small.

SULPHUR.—Dearer. Sicilian flowers, 6*l.* 12*s.* 6*d.* per ton; roll 6*l.* 7*s.* 6*l.*, c.i.f.

TURPENTINE.—Steady at 25*s.* $1\frac{1}{2}$*d.* per cwt. on the spot for American.

THE *Sketch* of this week contains a rather flippant and not altogether accurate article by "L. W. L." on "How Chemists are Made." It professes to describe the examinations held by the Pharmaceutical Society, and says they "take from five to six hours." The man to whom (says the writer) "A primrose by the river's brim, A yellow primrose was to him, And nothing more," would be plucked forthwith. It would have to be *Primula vulgaris*, natural order *Primulaceæ*; an herbaceous perennial; habitat the British Islands.

Drug-auctions in London.

AT the sales held to-day the following were the goods offered and disposed of publicly. Although the stock of cardamoms in London is large the offerings did not include any of the very finest Mysores, but some are coming forward. Rio ipecacuanha was offered by two leading brokers in about equal amounts, and that condition is likely to obtain for some time, fresh arrivals having been warehoused. Fine dragon's blood is still wanted. Australian beeswax is scarce, and the price of it has topped that of Jamaica—a rare happening:—

	Offered	Sold		Offered	Sold
Aconite (Japan)	5	0	Kino	16	0
Aloes (Cape)	25	15	Kola nuts	19	0
(Curaçao)	179	138	Lime-juice	68	0
(Soc.)	3	0	Liquorice-root	50	0
Aniseed	38	0	Mastic	15	0
Annatto-seed	27	0	Menthol	3	0
Asafetida	8	7	Musk	1	0
Asphaltum	30	0	Musk-seed	1	0
Balsam copaiba	43	0	Myrrh	48	21
Tolu	19	0	Nux vomica	32	12
Benzoin	289	19	Oil, aniseed	1	0
Buchu	9	0	bay	2	0
Cactus-flowers	10	0	cajuput	11	0
Calumba	305	267	castor	50	0
Camphor (crude)	50	0	cinnamon	68	14
Cardamoms	338	209	citronella	13	3
Cascara sagrada	100	0	eucalyptus	67	0
Cassia fistula	37	0	geranium	1	0
Chiretta	2	2	lemon grass	26	0
Cinchona	111	110	lemon	1	0
Colocynth	13	6	limes	2	2
Croton-seed	3	3	olive	17	0
Cubebs	210	0	peppermint	3	0
Cumin-seed	67	14	rose (Bombay)	4	0
Cuttlefish bone	64	39	sandalwood	2	2
Dill-seed	80	10	sassafras	2	0
Dragon's blood	9	0	ylang-ylang	3	0
Elaterium	9	0	Orange-peel	48	0
Ergot of rye	49	5	Patchouli	61	35
Galbanum	16	0	Pistachio-nuts	2	0
Galls	335	0	Quinine sulphate	25	0
Gamboge	1	1	Rhubarb	87	18
Gentian	39	30	Sarsaparilla	41	25
Golden seal	3	0	Scammonium	8	0
Gum arabic	62	7	Scammony root	80	0
olibanum	5	0	Senna	170	23
sandarac	6	0	Squills	4	0
ammoniacum	3	1	Sticklac	24	0
tragacanth	36	0	Tamarinds	71	0
Honey	201	64	Turmeric	35	10
Ipecacuanha (Cart.)	25	1	Wax (bees')	405	176
(Rio)	26	1	(Japan)	50	0
Jalap	26	0	Yellow berries	11	11
Kamala	14	2			

ALOES.—*Cape*: The finest qualities did not sell. Fair glassy hard, slightly drossy, sold at 24*s.* to 25*s.* per cwt. softish ditto 21*s.*, and ordinary dull and drossy 19*s.* to 20*s.* *Curaçaos* were in good supply, but of medium quality. The best, a lot of fair pale liver, sold at 26*s.* per cwt.; ditto, part dark, capey, and overheated, 15*s.* to 17*s.* 6*d.*; and water-damaged, 7*s.* *Socotrine* not in request.

ASAFETIDA.—Good pale pinky drop, part blocky, sold at 60*s.* per cwt., subject. A lot of a pasty kind, which is rarely seen in the London market, and is used in India as a condiment, was not bid for. Privately business has been done in very low stony and drossy gum at 35*s.* to 37*s.* 6*d.* per cwt.

BALSAM COPAIBA.—Unfiltered Maranham balsam was limited at 2*s.* per lb. For a parcel of Cartagena 1*s.* 5*d.* per lb. was refused, but 1*s.* 7*d.* would buy. Privately the market is very quiet, but business has been passing in Maracaibo balsam at prices up to 1*s.* 10*d.* per lb.

BALSAM TOLU.—Fair quality from Savanilla is held for 1*s.* 8*d.*, a bid of 1*s.* 7*d.* being refused.

BENZOIN.—In poor request and unchanged. *Siam*, in medium to bold pale detached almonds, sold at 15*l.* 10*s.* per cwt.; pea-size drop, fairly free and partly blocky, was bought in; medium blocky almonds, partly drossy, sold at

97*s.* 6*d.*; blocky pickings at 95*s.*; and low brown blocky siftings at 60*s.* Of *Sumatra* only dull low brown, glassy and barky, which was offered without reserve, sold, at 70*s.* to 80*s.* *Palembang* of low quality and dark-brown colour was limited at 20*s.* to 28*s.* per cwt.

BUCHU.—Not in demand; 4¼*d.* per lb. would buy fair bright round leaves.

CALUMBA.—Lower. Fair bright sound washed root was bought in at 55*s.* to 60*s.*; ordinary brownish and dull mixed sizes sold at 17*s.* 6*d.* to 21*s.* per cwt.

CAMPHOR (CRUDE).—Quiet. Chinese is offered at 82*s.* per cwt. for June-July steamer shipment, and at 89*s.* c.i.f. for Japanese. A parcel of this variety was offered in auction and bought in at 92*s.* 6*d.*

CARDAMOMS.—Cheaper by 3*d.* per lb *Ceylon-Mysores* of the highest quality were not offered. Bold bright pale full-seeded fruit sold at 3*s.* 6*d.* to 3*s.* 10*d.* per lb.; medium ditto, 3*s.* 4*d.*; small to medium pale round, 2*s.* 6*d.* to 3*s.* 1*d.*; part split, ditto, 2*s.* 7*d.*; small to medium longs, 2*s.* 6*d.*; and splits and pickings, 2*s.* 3*d.* to 2*s.* 10*d.* Of *Ceylon-Malabars* only splits met with demand, at 2*s.* 2*d.* per lb., poor and small fruit. Red-brown seeds of full flavour sold at 2*s.* 9*d.* to 3*s*, and mixed seeds at 2*s* 9*d.* A parcel of Chinese wild cardamom-seeds was not bid for.

CASCARA SAGRADA.—Neglected to-day, the only parcel offered being bought in at 25*s.* per cwt., though 20*s.* would buy. Privately 25*s.* is asked for old bark, and 21*s.* for new, c.i.f. terms.

CHIRETTA.—Dearer. Two bales of fair quality sold to-day at 3¼*d.* per lb., and it leaves the market bare. The same quality of chiretta was sold a month ago at 2½*d.*

CINCHONA.—Fine grey Huanoco quill sold at from 9¼*d.* to 11*d.* per lb.; broken and damaged ditto at 7*d.* to 8½*d.*, and coarse dark damages at 5*d.* to 6¼*d* South American yellow bark, fair bright rough flat, sold at 6¾*d.* to 7½*d.* per lb., and dark damaged ditto 4½*d.* South American red quill of exceptionally bold appearance sold at 3*s.* 7*d.* per lb., and an inferior lot at 2*s.* 3*d.* Other lots of the same consignment sold at 10½*d.* to 11*d.* for dull damaged, and 5*d.* to 6*d.* for damaged thin quill. Shavings fetched 3*d.* per lb. A lot of fine mossed E.I. crown quill was bought in at 1*s.* 6*d.* nominally—considerably less will buy.

COLOCYNTH.—Medium to bold pale Turkey apple, part broken, sold at 11*d.* and 10¾*d.*; low common realised 3*d.*, subject. Privately there is little business passing.

CROTON-SEEDS.—Dearer. Small seed sold at 87*s.* per cwt. The last price paid was 90*s.* for a superior seed.

CUBEBS.—This "lively article" (as one broker called it) was not required; 25*s.* would buy fair grey sifted berries.

CUMIN-SEED.—Slightly damaged Maltese sold at 14*s.* per cwt. A bid of 20*s.* was refused for another lot.

CUTTLEFISH BONE.—Firmer, and in more demand. Fine bold white sold at 4*d.* per lb. down to 1*d.* for very common. The exports from Ningpo in 1897 were 32,775 cwt., valued at 35,102*l.*, as against 37,976 cwt., valued at 25,839*l.*, in 1896.

DILL-SEED.—In fair demand; 11*s.* per cwt. was paid for fair East Indian. An offer of 13*s.* was refused for another lot.

DRAGON'S-BLOOD.—Good quality is in small supply. A bid of 7*l.* 17*s.* 6*d.* was refused for ordinary to fair lump of medium colour.

ERGOT OF RYE.—In auction Russian wormy sold at 8¼*d.* per lb.; fairly sound was bought in at 9*d.* to 1*s.* Privately the market is very flat, with offerings of poor Russian at 8*d.* to 8½*d.* per lb. on the spot. The finer grades are firmly held.

GALLS.—The offerings, included Turkey and Morea kinds, but no business was done. Chinese are offered at 57*s.* on the spot, and at 51*s.* 6*d.* to 52*s.* c.i.f., for arrival. Holders of Persian are firm, but little business has been done. The stock of Chinese in Canton and Hong Kong was estimated at 100 piculs on April 21, and there is no demand there.

GAMBOGE.—One case of fair colour, broken and partly blocky pipe, sold at 6*l.* 10*s.* per cwt.

GOLDEN-SEAL ROOT was not inquired for in auction. The present "c.i.f." quotation is 2*s.* 2*d.* per lb.

GUM ACACIA.—Picked Trieste grain sold at 6*l.* 10*s.* per cwt., and for another lot 7*l.* was wanted. Australian sorts are held for 40*s*, and good Aden siftings at 21*s.* Privately the market is quiet for Soudan sorts. Ghezirah gum is offered at 40*s* per cwt., but there no buyers at that figure. There is no Amrad to be had.

GUM AMMONIACUM.—Darkish blocky drop, rather drossy, mixed, sold at 21*s.* 6*d.* per cwt.

GUM TRAGACANTH.—A fair business has been done recently in the medium and lower qualities at steady values. Seconds and thirds are not inquired for. Bagdad firsts are nominally quoted at 13*l.*; seconds, 11*l.* 5*s.* to 12*l.* 10*s.*; thirds, 10*l.* to 11*l.*; and fourths at 8*l.* to 9*l.* 10*s.* per cwt. Bold flake was bought in at the auctions at 8*l.*

HONEY.—Australian, Californian, and Irish were offered, but did not sell. Italian white set sold at 29*s.* to 30*s.* per cwt., and dark ditto 20*s.* to 23*s.* 6*d.* Jamaica in fair supply and good demand; clear ambery syrup 22*s.* per cwt., ordinary ditto 20*s.*, and white set 22*s.* Some Trieste honey was bought in at 22*s.* 6*d.*

IPECACUANHA.—Steady. Fair sound Rio root, wiry to fair, sold at 9*s.* 1*d.* per lb., and privately business is reported at the same figure. Cartagena is cheaper; good stout well-annulated root, rather dusty, sold at 4*s.* 4*d.* per lb.

KAMALA.—Fair bright sold at 8*d.* per lb., subject.

MUSK.—No musk was shown at the Crutched Friars warehouse, and only one little lot of old-fashioned pod was offered, but did not sell. Business is being done privately in Pile 1, thin blue skin, at 71*s.* 6*d.* per oz.

MYRRH sold at lower rates for fine picked gum of full flavour and oily fracture, 63*s.* to 64*s.* per cwt. being paid. Good clean grain siftings sold at 42*s.*

NUX VOMICA.—Fair sized but dull buttons sold at 7*s.* 6*d.* per cwt.

OIL, CAJUPUT.—Good genuine pale oil has sold privately at 3*s.* 6*d.* per bottle.

OIL, CASTOR.—Fine pale Italian, first pressing medicinal, was limited at 4½*d.* per lb. in auction, and the only parcel offered was bought in at 4⅝*d.* Privately the market is slightly easier, Belgian of first pressing being offered on the spot at 31*s.* per cwt., and June-July delivery at 30*s.*; second pressing, June-July shipment, 28*s.* 9*d.* to 30*s.* per cwt, ex-wharf. British manufacture is offered at 30*s.* in barrels for first pressing, and at $3\frac{5}{16}$*d.* per lb. in tins and cases; second pressing, 29*s.* in barrels, and $3\frac{3}{16}$*d.* per lb. in tins and cases, f.o.r. or f.o.b. terms.

OIL, CINNAMON, was in large supply; but most of the oil was offered without reserve, and the broker found it necessary to place a reservation upon that, and only the first lines of each lot were offered, the prices obtained being from 3*d.* to 4*d.* per oz. for leafy oil. Some very poor oil was sold at 2*d.* per oz., and 1*s.* per oz. was the price placed upon a genuine bark oil.

OIL, CITRONELLA.—Three drums containing 17 cwt. of oil of fair green to brown colour sold at 12⅝*d.* to 12⅞*d.* per lb. A parcel of Singapore oil of fine aroma was limited at 1¼*d.* per oz.

OIL, SANDALWOOD.—Two pots, containing together about 320 lbs. of a dark-brown fluorescent oil from Bombay, sold without reserve at 1*d.* per oz. It had a slight odour of sandalwood, but it seemed to consist chiefly of the kind that Mother Earth distils at Baku.

PATCHOULI-LEAVES.—Dull of sale. The business done was in leaves more or less country damaged, of musty odour, and mixed with sand, which sold at from 1¾*d.* to 3½*d.* per lb. Good bright leaves of full flavour are obtainable at 4*d.* per lb.

QUININE.—Another 10,000 oz. of the Bandoeng make were offered and bought in, the broker stating that 10½*d.* per oz. would buy.

RHUBARB.—Steady. The sales were chiefly of *Shensi*, of which some fine bold round druggists' trimming root, with pinky fracture, sold at 2*s.* 10*d.* per lb. Good ditto sold at 2*s.* 5*d.*; bold stalky flat root, porous and light, sold at 1*s.*; and pickings at 1*s.* 1*d.* per lb. Common rough high-dried sold at 7½*d.* per lb. For bold flat heavy *Canton* root, of fair fracture, 1*s.* 2*d.* per lb. was bid, and provisionally accepted. A fair amount of business is passing privately, but there is a disposition to hold off in anticipation of the new crop.

SARSAPARILLA. — Easier. Good fibrous grey *Jamaica* sold at 1*s.* 8*d.* per lb.; red ditto (damaged), 1*s.* 3*d.*; *Lima Jamaica*, good fibrous. at 1*s.* 2*d.* to 1*s.* 3*d.*

SENNA.—Only second-hand parcels of *Tinnevelly* were offered, and the views of sellers are still high up. The sales consisted of medium green leaf, 4½*d.*; medium to bold. part brown, 3*d.* to 4*d.*; small to medium spotty and brown. 2½*d.* per lb. *Alexandrian* was in fair supply, and the best of it, medium green leaf, was limited at 7*d.* per lb. *Mecca* leaves did not sell.

TURMERIC.—Good pale finger from Shanghai sold to-day at 17*s.* per cwt., subject to approval. Another lot of Madras finger was bought in at 25*s.* Privately good Madras finger is quoted at 20*s.* to 21*s.* per cwt. Small sales of Bengal are reported at 15*s.* 6*d.*, and Cochin split bulbs at 9*s.* to 10*s.* per cwt.

VANILLA.—The supplies were moderate in amount, and sold fairly well, the commoner sorts going at higher values. Some extra long (9½ inches) finely frosted Seychelles pods were bought in at 25*s.* per lb. nominally. Good crystallised chocolate (5½ to 7½ inches) sold at 10*s.* to 20*s.*; 4½ to 5½ inches, ditto, 15*s.*; common foxey and brown, 12*s.* to 14*s.* Tahitis of mixed sizes sold at 2*s.* to 3*s.* 6*d.*; 2 to 3 inches, ditto, 3*s.* to 5*s.*; and 3 to 7 inches, 9*s.*

WAX (BEES').—Firmer, and Australian is higher, good hard mixed selling at 7*l.* 5*s.*; but 7*l.* 12*s.* 6*d.* has been paid for fine yellow. *Jamaica*: Good hard fair-coloured wax sold at 7*l.* 7*s.* 6*d.*, fair sorts at 7*l.* 2*s.* 6*d.* to 7*l.* 5*s.* *Madagascar*: Dark yellow brownish, part earthy, sold at 6*l.* 10*s.* to 6*l.* 12*s.* 6*d.*; ditto, good sound yellow, even colour, 6*l.* 16*s.* Benguela, Californian, East Indian, Italian, Mogador, Portuguese, and Zanzibar waxes were also offered, and only one lot of Italian sold. at 5*l.* 15*s.* per cwt., subject. For pale Zanzibar 6*l.* 12*s.* 6*d.* was wanted. Ordinary Mogador was limited at 95*s.*

WAX (JAPAN).—Nothing was sold to-day. Privately the quotations for arrival are dearer, June-July shipment being quoted at 33*s.* 3*d.* c.i.f. On the spot there are offers of good pale squares at 35*s.* per cwt.

Heavy Chemicals.

A quiet tone continues to pervade the heavy-chemical market, and notable changes of special importance are few. Home orders keep fairly steady, and on the whole are fairly good, but exports are not so heavy as they ought to be. The most noticeable alteration to be reported is the continued advance in the figures quoted for *Sulphate of ammonia*, and there appears to be every prospect of still higher figures ruling. Demand for prompt is heavier, and a fair amount of business is being done for forward delivery. Present quotations are:—Beckton, 9*l.* 10*s.*; Beckton terms, prompt, 9*l.* 5*s.*; Leith, 9*l.* 5*s.* to 9*l.* 7*s.* 6*d.*; Hull and London 9*l.* 5*s.* to 9*l.* 6*s.* 3*d.* Exports from Leith last week amounted to 112 tons. *Benzols* keep fairly steady at about the figures mentioned last week, and there is a probability of advance. *Carbolic acids* are steady; crude, 75-per-cent., 2*s.* 6*d.*: and 60-per-cent. 2*s.* 0½*d.*; crystals, 34–35°, 6¼*d*; and 39–40°, 6¾*d.* *Aniline oil* and *salt* are dearer, and both are now quoted 5*d.* to 5¼*d.* *Pitch* is in good inquiry, and keeps firm at late figures. *Anthracene* is moving rather better, but values at present show only a meagre improvement; A grade 5*d.*, and B grade 4*d.* to 4¼*d.* *Naphthas* are moving well, and are a shade higher; mineral solvent, 95-per-cent., stands at 1*s.* 5*d*, and 30-per-cent. at 1*s.* 3*d.* *Crude naphtha* steady, at 5*d.* to 6*d.* *Solvent-wood* is quoted 3*s.*, and miscible-wood, 60 o.p., has advanced from 3*s* 11*d.* to 4*s.* *Creasote* maintains a steady position at about 2½*d.*; liquid is 2⅞*d.* to 3*d.* *Bicarbonate of soda* is very firm, and *Soda crystals* are in heavier request, particularly for home delivery. *Ammonia alkali*, 58-per-cent. strong. with higher quotation, 4*l.* 5*s.* to 4*l.* 7*s.* 6*d.*, free on rails in bags. *Recovered sulphur* firm at 4*l.* 17*s.* 6*d.* to 5*l.* with good business passing. *Brown acetate of lime* is in rather better supply, but *Glauber salts* are still scarce. *Salt-cake* has advanced to 22*s.* 6*d.* per ton free on rails in bulk, and *Nitrate of soda* is steady, at 7*s.* 7½*d.* for ordinary, and refined 7*s.* 9*d.* *Linseed* and *cotton-seed cakes* are rather quiet, but late figures are fully maintained. *Acetates of lead* are steadily quiet. *Caustic soda* quiet. *Sulphate of copper* a shade weaker.

The Liverpool Drug-market.

Our Liverpool correspondent, writing on May 25, reports that *Castor oil* is very steady at the rates which have been ruling for the past two or three weeks, 3¼*d.* being the price of good seconds Calcutta and first-pressure French, but holders look for better prices in the near future. Second-pressure French is held from 2*d.* to 3$\frac{1}{16}$*d.* per lb. *Kola nuts* are arriving steadily, and sales of dry have been effected from the quay at 1¼*d.* per lb. *Sulphate of copper* is easier, at 16*l.* 5*s.* per ton, and white-powdered *Arsenic* is also showing an easier tendency. *Calabar beans* are in better request, and 2½ tons are reported as sold at 2½*d.* per lb. *Chilian honeys* of the lower class are somewhat easier, and 20*s.* is buyers' idea of Pile 3 Chilian, but holders want 1*s.* more. *Californian* honey of all grades is about 5*s.* per cwt. higher in consequence of the reported failure of the coming crop, a report which is confirmed from reliable sources; as much as 40*s.* per cwt. is asked for fine liquid Californian honey, and the supplies available are very small. In *Gums* there has been rather an absence of business in arabic sorts this week, very little inquiry being experienced for it, but the supply is small, and holders are firm at about 70*s.* to 80*s.*, according to quality. Medium descriptions are neglected, but there is no alteration in value to note. *Grains of Paradise* are in small supply, and the only holder on the spot asks 40*s.* cwt. *Turpentine* is a little easier, and sales are recorded at 27*s.* per cwt. *Canary-seed* is flat, and has become almost featureless again, good bright Turkish being procurable at 26*s.* to 27*s.* per quarter. *Chilian Spermaceti* is held for 1*s.* 3*d.* per lb. *Russian aniseed* is quiet at 18*s.* per cwt., with little business passing. *Fenugreek-seed* is firmly held at 11*s.* for Egyptian and 12*s.* 6*d.* for Morocco bright seed.

The New York Market.

Our correspondent, writing on May 17, states that notwithstanding the war, the drug-market has been comparatively quiet. The general tone, however, is very firm. Contrary to general expectations, the effect of the war on the drug-business has been favourable, and wholesalers generally report increased business. Speculation has been confined to one or two drugs—quinine and the articles classed as "contraband of war," receiving attention from speculators. As a result, the market in these articles has been demoralised, and at the present time quotations are only nominal:—

BALSAMS.—COPAIBA stocks are generally low, and the market is very firm. For the better grades, 50c. to 52½c. per lb. is asked. PERU is firmly held at $2.20 to $2.25 per lb., stocks being very small. TOLU is slightly easier, but most holders still ask 45c., though sales at 42c. per lb. are reported.

BUCHU-LEAVES are in moderate demand at 12c. to 16c. per lb.

CASCARA SAGRADA is firm at previous quotations.

CINCHONIDINE in good demand at 14c. to 15c. per oz.

FORMALDEHYDE.—The demand for this article is increasing almost daily, and as supplies are slow in arriving, the article occupies an unusually strong position. Holders quote from 25c. to 30c. per lb., the latter being the more usual figure.

GOLDEN SEAL has further advanced to 50c. per lb.

MEXICAN SARSAPARILLA is firmly held at 8c. to 8½c. per lb.

IPECACUANHA.—Stocks are light, and $2.20 to $2.30 per lb. is asked for Rio.

MERCURY has advanced, and $57 to $58 per bottle is the present price.

SENNA-LEAVES.—A good demand for Tinnevelly has caused a slight advance, and 6½c. to 12c. per lb. is asked.

QUININE.—The "boom" in this drug has subsided, and quotations have fallen to a proper level. The demand is still good, and the quotations for the foreign brands remain firm at 22c. per oz. for 100-oz. tins. Speculators are still more or less active in anticipation of large demands by the government for the use of the troops; but it is affirmed. on good authority, that Uncle Sam laid in large stocks some time since at fairly low figures.

OPIUM is quiet, but steadily advancing, $3.55 to $3.60 per lb being asked with every prospect of a rise to $4 in the near future.

The British Pharmacopœia, 1898.

COMMENTS AND CRITICISMS.

THE GALENICAL PREPARATIONS OF THE NEW BRITISH PHARMACOPŒIA.

By John C. Umney, F.C.S.

OINTMENTS.

VERY considerable alterations have been made in the bases of the ointments of the new Pharmacopœia, and they have now apparently been divided into two classes according as the medicaments are intended for absorption or for local use. In the case of those intended for absorption, lard, benzoated lard, or woolfat has been adopted, whilst in the case of those intended for local action mixtures of hard and soft paraffins have been selected, either in definite proportion in the form of unguentum paraffini, or in varying proportions where one of the constituents of the ointment is a liquid, and therefore, necessitates readjustment of these proportions.

Two great general improvements should be noted—the inclusion for the first time in the British Pharmacopœia of instructions for the modification of bases of ointments according to the temperature for which they are intended—under Ung. Paraffini instructions are given that the proportions of hard and soft paraffins may be modified to meet the exigencies of climate and prevailing temperature. In the appendix it is further stated that more or less indurated lard (lard deprived of a portion of its oil by pressure), prepared suet, yellow beeswax or white beeswax may be employed in the preparation of the ointments of the Pharmacopœia when prevailing high temperatures otherwise render the bases too soft for convenient use. This had already been to some extent recognised in the United States Pharmacopœia, which allows in benzoinated lard the addition of 5 per cent. of wax in summer temperatures.

The second improvement has been the outcome of the constant comment by pharmacists that no definite statement as to the colour of the paraffin bases of ointments was given in the 1885 Pharmacopœia; and now it is clearly indicated that colourless ingredients should be compounded with the white-paraffin base.

The classification of the ointments according to the purpose for which they are intended follows in most instances the suggestions of Lucas (a notable exception being ung. zinci), and in a few other less important ointments the basis for local application as suggested by him has not been adopted. Simple ointment has been omitted, and its use as a basis replaced in some instances by lard, and in others by paraffin ointment—an alteration which in some cases may require explanation in the dispensing of the ointments. It is worthy of note also that no ointments are prepared with the ung. aq. rosæ now made official.

THE BASES.

Adeps.—It is not clear why the title has been altered to "Adeps" from "Adeps Preparatus." It would have been preferable had no monograph been included for the "adeps" of commerce, as it is a dietetic article, and then the compilers might have made official an adeps preparatus which could have been required to correspond to the stringent tests that are now set out. It is true that fine lard, as made in Ireland and elsewhere, is practically pure, and therefore no trouble may arise under the Sale of Food and Drugs Act; but it would have been better, in my opinion, to have been consistent and excluded the monograph for lard in common with other dietetic articles. There appears, moreover, to be no necessity for detailing the process of preparation, a such is not set out in the United States Pharmacopœia. The melting-point of lard is stated to be about 100° F. (37·8° C.), and this is approximately that of the other principal Pharmacopœias, the U.S.P. being 38° C. to 40° C. and the German Pharmacopœia 36° C. to 42° C., while the finest pure lards of commerce melt within these limits. The test for the limit of acidity is practically the same as the United States and German Pharmacopœias, whilst that for cotton-seed oil is official also in the former.

Adeps Benzoatus.—The proportion of benzoin has been increased by half, and it is now the most strongly benzoated lard of the more important Pharmacopœias. Suggestions have been made from time to time to preserve lard with benzoic acid in place of benzoin, or to employ a tincture of benzoin. The latter is elegant, but unnecessarily expensive, and is adopted by the French Codex, whilst the former is adopted by the German Pharmacopœia, the proportion of benzoic acid being 1 per cent. In the United States Pharmacopœia the proportion of benzoin employed is less than that now official in the British Pharmacopœia.

Adeps Lanæ.—The tests have been slightly modified, and the melting-point, which was given in the first editions of the Addendum, 1890, as from 104° F. to 111° F., is now stated as being from 100° F. to 112° F., to which it was altered in the later reprints of the Addendum. A definite requirement for ash—0·3 per cent.—is now stated, which is that of the U.S.P., and the same limit of acidity as heretofore included, although this should and could have been very considerably reduced. The hydrated woolfat is only employed in the preparation of two ointments, and it does appear that its use might have been very considerably extended.

Paraffin Basis.—The necessity for narrowing the limits of the melting-points of both the hard and soft paraffins of the 1885 Pharmacopœia has been to some extent met. The hard paraffin is now limited to 130° to 135° F., which is higher than that official in either the United States or the German Pharmacopœia; but in making the ung. paraffini this is counterbalanced by the melting-point of the soft paraffin being lower in the B.P. than in the U.S.P.

Paraffinum Molle.—The melting-point has been narrowed, although a single fixed point is not yet given. It is stated to melt at 96° to 102° F., or even somewhat higher, that of the U.S.P. being from 104° to 113° F. It will be found that the most largely advertised soft paraffin frequently falls below the latter limits. Considerable difficulty will be found in getting soft white paraffin of a homogeneous consistence at low prices. Most of the so-called soft white paraffin sold consists of mixtures of liquid paraffin oil and paraffin wax, and absence of homogeneity frequently gives trouble. Soft white paraffins can, however, be produced perfectly smooth and of a stringy consistence, the quality being in accordance with price. The melting-point of ung. paraffini made from hard and soft paraffins falling within the official ranges varies from 41° to 43° C., a temperature well suited for the purpose for which the ointments made with this base are designed.

THE FORMULÆ.

It cannot be said that the formulæ for ointments are in all respects satisfactory, although in many cases they are decided improvements upon those official in the former Pharmacopœia. The alterations in strengths as well as the nature of the bases can conveniently be seen in tabular form, and the following table is abstracted from "A Short Guide to the New British Pharmacopœia," which I have recently published:—

Name of Ointment	Basis, 1885	Basis, 1898	Strength, 1885	Strength, 1898
Ung. acid. boric.	Hard and soft paraffin	Paraffin ointment	1 in 7	1 in 10
,, ,, carbolic. ...	,, ,,	Glycerin and paraffin oint.	1 in 19	1 in 25
,, ,, salicylic. ...	,, ,,	Paraffin ointment	1 in 28	1 in 50
,, aconitinæ	Benz. lard	Lard	About 1 in 60 Amorph. aconitine	1 in 50 Crystalline aconitine
,, atropinæ	,, ,,	,,	About 1 in 60	1 in 50
,, belladonnæ	,, ,,	Benz. lard	1 in 10 ext. of root	Standardised
,, cantharidis	Yellow wax and olive oil	,, ,,	About 1 in 7	About 1 in 10
,, capsici	Not official	Olive oil and spermaceti	—	About 1 to 4
,, chrysarobin. ...	Benz. lard	Benz. lard	1 in 25	1 in 25
,, cocainæ	Not official	Lard	—	1 in 25
,, conii	Hydrous woolfat (1890)	Hydrous woolfat	2 juice in 1 (1890)	2 juice in 1
,, creosoti	Simple ointment	Hard and soft paraffin	About 1 in 9	1 in 10
,, eucalypti	Hard and soft paraffin	,, ,,	1 in 5	1 in 10
,, gallæ	Benz. lard	Benz. lard	1 in 6½	1 in 5
,, ,, cum opio ...	,, ,,	,, ,,	Opium 1 in 14½	7½ %
,, glyc. plumbi subacet.	Hard and soft paraffin	Paraffin ointment	1 in 6⅓	1 in 6
,, hamamelidis ...	Simple ointment (1890)	Hydrous woolfat	1 in 10 (1890)	About 1 in 10
,, hydrarg.	Lard and prepared suet	Lard and prepared suet	1 in 2, nearly	1 in 2, nearly
,, hyd. ammoniat. ...	Simple ointment	Paraffin ointment	1 in 10	1 in 10
,, hydrarg. co.	Yellow wax and olive oil	Yellow wax and olive oil	1 mercury in 4½	1 in 5
,, hyd. iodid. rub. ...	Simple ointment	Benz. lard	1 in 28¼	1 in 25
,, ,, nit.	Lard and olive oil	Lard and olive oil	1 in 15½	1 in 15½
,, ,, ,, dil.... ...	Soft paraffin	Yellow soft paraffin	1 in 3	1 in 5
,, ,, oleat.	Not official	Benz. lard	—	1 in 4
,, ,, oxid. flav. ...	,, ,,	Paraffin yellow	Not official	1 in 50
,, ,, ,, rub. ...	Hard and soft paraffin	Paraffin ointment yellow	1 in 8	1 in 10
,, ,, subchlor. ...	Benz. lard	Benz. lard	1 in 6½	1 in 10
,, iodi	Lard	Lard	1 in 31	1 in 25
,, iodoformi	Benz. lard	Paraffin ointment yellow	1 in 10	1 in 10
,, picis liq.	Yellow wax	Yellow wax	5 in 7	5 in 7
,, plumbi acet.... ...	Benz. lard	Paraffin ointment	1 in 37½	1 in 25
,, ,, carb. ...	Simple ointment	,, ,,	1 in 8	1 in 10
,, ,, iodid. ...	,, ,,	Paraffin ointment yellow	1 in 8	1 in 10
,, potass. ,, ...	Benz. lard	Benz. lard	1 in 8¾	1 in 10
,, resinæ	Wax, simple ointment, and almond oil	Wax, olive oil, lard	1 in 3¾	1 in 3¾
,, staphisagriæ ...	Benz. lard	Benz. lard and yellow wax	1 to 2 about	1 to 9¾ about
,, sulphuris	,, ,,	Benz. lard	1 in 5	1 in 10
,, ,, iodid. ...	Hard and soft paraffin	,, ,,	1 in 15½	1 in 25
,, veratrinæ	,, ,,	Lard	1 in 63	1 in 50
,, Zinci	Benz. lard	Benz. lard	1 in 6½	1 in 6⅔
,, ,, oleat.	Soft paraffin	Soft paraffin	1 in 2, 10% oleate	1 in 2, true oleate

Ung. Acid. Carbolic.—Lucas's suggestion to dissolve the acid in glycerin has been adopted, which is a compounding improvement, but I notice a decided tendency of the ointment to become pink in a few weeks.

Ung. Aconitinæ.—This ointment, in common with the other alkaloidal ointments, is prepared by solution of the alkaloid in oleic acid and subsequent addition of lard. It should not be forgotten that although nominally ung. aconitinæ is only slightly stronger than that of the 1885 Pharmacopœia, yet it is from three to four times stronger in consequence of the employment of crystalline aconitine in place of a mixture of aconitine and amorphous alkaloids formerly official as aconitine.

Ung. Aquæ Rosæ.—No doubt intended to represent cold-cream. It is not quite a satisfactory ointment. The proportion of rose-water contained in it is too great, and even with the most careful manipulation it cannot be entirely emulsified. The water is considerably in excess of the amount usually employed for similar purposes, and is practically twice the amount of that contained in the U.S.P. ointment. In my opinion it might be reduced by about 10 per cent. with advantage.

Ung. Belladonnæ.—This formula also will not be found to be uniformly satisfactory. It should be observed, first of all, by reference to the foot-note, that 100 parts contain 0·6 part of the alkaloids of belladonna-root—that is to say, it is approximately twice the strength of the ointment official in the 1885 Pharmacopœia. The strength of ointment suggested by Cripps was ·3 per cent., and for this he suggested the concentration of 1 fl. oz. of liquid extract of belladonna to ¼ oz., and the mixing of this with 2¼ oz. of benzoated lard. The new British Pharmacopœia, in directing the ointment to be made twice this strength, has not apparently recognised the fact that in concentrating the proportion required of liquid extract of belladonna—namely, 2 fl. oz.—to ¼ oz. it produces an extract which when the relative proportion of extractive to alkaloid is high, can readily be powdered. This will be obvious even on calculation, as the 2 fl. oz. of liquid extract of belladonna may be equivalent to between 3½ and 4 oz. of foreign belladonna-root, which normally yields to 90 per cent. alcohol from 10 to 11 per cent. of a stiff extractive. Operating with English root I have not met the same difficulty. In order to make the ointment satisfactorily a portion of the benzoated lard would in the former case have to be omitted and the extract not evaporated to ¼ oz., but a deviation from the pharmacopœial instructions might lead to considerable difference in the appearance of the ointment as prepared under varied conditions. This is, of course, an inevitable result of alkaloidal standardisation with regard to extractive proportion.

Ung. Capsici.—The formula is an unsatisfactory one, and, even if prepared as directed by the Pharmacopœia, without stirring, makes a very liquid ointment, and one that will be quite unmanageable in summer. I find that it melts at from 31° C. to 33° C., whilst the chillie-paste of a well-known maker melts at 37° C to 38° C.

Ung. Conii.—It will be noted that the boric acid which was included in this ointment in the 1890 Addendum has been omitted, but its inclusion had, so far as I know, no advantage.

Ung. Creosoti, Ung. Eucalypti, Ung. Glycerini Plumbi Subacet.—In the formulæ for all these ointments the liquids are to be taken by weight, and not by measure. This is indicated by the use of grammes in the metric formulæ.

Ung. Hydrarg.—It would have been advisable to give more detailed instructions for the preparation of this ointment. It is extremely difficult to prepare mercurial ointment by the B.P. formula, except by special machinery constructed for the purpose, and therefore there would have been no harm in allowing the use of a small quantity of oleate of mercury—say, 2 or 3 per cent.—as is permitted in the U.S.P. The official basis, moreover, is somewhat too soft, and it would have been better to have either modified the proportions of suet and lard to more nearly correspond with those of the U.S.P., in which those ingredients are equal, or have adopted another method of stiffening.

Ung. Hydrarg. Co.—Few will question the desirability of making ointments as attractive in appearance as possible. In my opinion it would have been far better to have substituted white wax for yellow wax in this formula; a preparation so compounded has an elegant grey colour in place of the yellowish-brown tint now produced by the yellow wax.

Ung. Hydrarg. Nit.—The statements of Lucas, Maben, Squire, and others regarding this ointment have led to modification in the details of manufacture. The suggestion of Lucas that the solution of nitrate of mercury should be added to the lard and oil raised to a temperature of 350° F., although disapproved by Squire, who stated that he preferred a considerably lower temperature, was subsequently corroborated to some extent by Maben (in partial opposition to his own views expressed some years previously). Lucas stated that an ointment prepared at a temperature of 300° to 350° F. had a perfect colour and consistence, and kept apparently perfectly. I prepared at that time quantities of the ointment at temperatures varying between 212° F. and 350° F., and after the space of a year I find that those prepared at the lower temperature have preserved their colour and consistence decidedly better. In the Pharmacopœia the suggestion with regard to the temperature has been partly met, and the modification of the directions are set out for convenience side by side:—

	1885	1898
Dissolve mercury in nitric acid ...	with little heat	without heat
To the basis	at 212° F.	at 290° F.
In a jar of capacity...	6 times	10 times
Add the mercurial solution ...	at 212° F.	cold

It should be noted also that the relative proportions of lard and olive oil are altered, making a stiffer ointment, and also that the olive oil in the formula is to be taken by weight. With regard to the acidity of the ointments produced by the two processes I find that the total acidity (using ordinary indicators) shows no practical difference, that prepared at a temperature of 212° F. being slightly more acid than that prepared at 290° F.

Ung. Hyd. Nit. Dil.—If this ointment be prepared with those soft paraffins commonly met with in trade, it will be found to speedily darken by keeping, although the change is less objectionable perhaps than when prepared with lard. The decreased strength is a decided improvement, as complaints were not unknown of the powerful action of the ointment of the previous Pharmacopœia, and confusion with that of the formula of the old London Pharmacopœia was not uncommon.

Ung. Hyd. Oxid. Flav.—This ointment, for which an official formula was badly needed, is somewhat weak, that official in the U.S.P. being 10 per cent., or five times stronger.

Ung. Sulphuris Iodid.—The formula is a very decided improvement, and the ointment prepared as now directed is highly satisfactory.

Ung. Zinci Oleat.—This consists of a mixture in equal parts of precipitated oleo-palmitate of zinc with an equal weight of white soft paraffin. No instructions are, however, given as to the product that should be obtained from the pharmacopœial quantities of sulphate of zinc and hard soap in shavings. It will be found that the proportion of oleate dried on a water-bath until it ceases to lose weight is about 95 grammes, operating with 60 grammes of sulphate of zinc and 120 grammes of hard (olive oil) soap. This is practically the calculated quantity, allowing for 30 per cent. of water in the hard soap. A much whiter ointment can be prepared by the use of curd (white tallow) soap in place of hard soap, the resulting stearate being much more elegant in appearance than the oleate prepared from the hard soap. The ointment prepared from the hard soap cannot be described as absolutely white.

OILS, FATS, WAXES, AND SOAPS.

By E. J. Parry, B.Sc., F.I.C.

Having contributed a few notes on this subject in the series of "Constructive Criticisms on the Pharmacopœia" to The Chemist and Druggist two years ago, possibly a few words now that the new Pharmacopœia is published may not be inopportune. I arrange my notes in B.P. order:—

Adeps.—When no retailer—nor wholesaler, for that matter—ever dreams of making his lard, it appears somewhat superfluous to devote any space to a description of how to make and purify the substance. With regard to the tests, "about 100° F. (37·8° C.)" is regarded as sufficient for the melting-point. As a matter of fact, Buff, Wimmel, Kœnigs, and Bensemann are all agreed in placing the true melting-point of lard at from 40·5° C. to 48° C. The test for the absence of cotton-seed oil, with silver nitrate is not at all trustworthy, as cotton-seed oil can be refined so as not to give the Becchi reaction. If this colour-reaction is to be official, all analysts are agreed that it is far more trustworthy (in so far as it is trustworthy at all) when applied to the fatty acids instead of to the fat. The limits of acidity appear quite fair, as commercial lard can regularly be obtained with less than ·5 per cent. of free oleic acid. [Note that the volumetric solution of sodium hydroxide is standardised to *litmus*, but used here with *phenolphthalein* as an indicator.]

Adeps Lanæ.—Here, as in the case of adeps, with the exception of the melting-point and the acidity-limit, there are no quantitative reactions. There is, however, a sulphuric-acid colour-reaction. Such reactions one would expect to have disappeared from the present edition.

Cera Alba.—Now described as white beeswax. Chemically bleached beeswax is excluded by the description as "yellow beeswax which has been bleached by exposure to moisture, air, and light."

Cera Flava.—Yellow beeswax. It may be noted that "cera" is not the Latin for *bees*wax. The sp. gr. limit is not quite correct. Pure beeswax often falls to ·958 at 60°. The density at 100° C. would have been better. The melting-point limits are also a little too close; 61° to 64° C. would have been better. The quantitative method of Hübl has been rendered official, but the limit given—not less than 1·6 c.c. normal potash solution for the acid number for 5 grammes (= 1·79 per cent. KOH)—is not satisfactory, for whilst it rarely falls to this it averages 1·9 per cent. and 2·2 per cent.

in chemically bleached wax. The ester limit (6·9 to 7 6 per cent. KOH) is more satisfactory.

Cetaceum.—Melting-point given as 46° to 50°. In good-quality spermaceti the melting-point frequently falls three degrees below this.

Oleum Amygdalæ.—No quantitative reaction except the gravity, which covers the limits of all authentic observers.

Oleum Crotonis.—The same remark applies here.

Oleum Lini.—Ditto.

Oleum Morrhuæ.—That most useless of all colour-reactions—with sulphuric acid—is retained. Both the sp. gr. and this reaction admirably agree with most of the liver-oils used to adulterate cod-liver oil. The albumen reaction with nitric acid is very uncertain, and some observers state they cannot obtain it.

Oleum Olivæ.—Here, again, the silver-nitrate reaction is given. The same remarks on this as those already made under Adeps apply.

Oleum Ricini.—I think ·950 is too low a sp. gr. for a genuine, good-class castor oil. The petroleum-spirit test is very misleading. Whilst it is true that petroleum spirit or ether dissolves but little castor oil, castor oil will dissolve its own volume of petroleum ether of certain gravity, and even more of some varieties of kerosene oil, and form quite clear solutions. This test requires amending. Much better say that three volumes of petroleum ether and one of castor oil do not give a clear solution.

Oleum Theobromatis.—Melting-point is given as 31·1° to 33 9° C. Would have been better at 30° to 34° C. The ether-solubility test depends so much on the conditions as to be almost valueless—probably quite so.

Paraffinum Durum.—Incorrectly described as a mixture of the harder members of the paraffin series of hydrocarbons. If it is worth giving the chemistry of this substance it is worth giving correctly. It always contains other hydrocarbons in notable proportions.

Paraffinum Liquidum.—The test for the absence of sulphur would certainly not react in the case of all sulphur compounds.

Paraffinum Molle.—The same remarks as given under Paraffinum Durum apply.

Sapo Animalis.—The test stated as indicating the limit of alkaline carbonate is incorrect. It includes all the alkali present as silicate or borate—the former a very frequent constituent of soaps.

Sapo Durus, Sapo Mollis.—The same remarks apply here.

Serum Præparatum.—One looks in vain for the full details of preparation, such as are given under Adeps. Why? Also why copy the German "benzol" when benzene is meant?

Taking this group of substances as a whole, the most noteworthy point about them is the practically entire absence of quantitative reactions. This is extraordinary when, for organic natural bodies, their composition and properties are exceedingly well known. Yet the rule has been departed from in the case of beeswax, where the orthodox Hübl's method is given. Why not in the other cases? As a quantitative method for the examination of fixed oils, what could be better established than the iodine method? And, by contrast, what could be less definitely reliable than the Becchi reaction for cotton-seed oil? One would have thought that the mass of literature which proves that the test is only reliable when it gives a positive reaction could not have escaped the compilers' notice. If it is necessary to introduce acidity limits in the case of one or two fats, it is certainly necessary to introduce them for olive oil, which frequently varies in free oleic acid from 1 to 10 per cent, or even more in really bad samples. From the point of view of chemical errors, it is surprising to see the limits of alkaline carbonates in soap described so as to include alkaline borates and silicates.

134 Upper Thames Street, E C,
May 17.

CASCARA AND CASCARA EXTRACTS.

By John Moss, F.I C., F.C.S.

The description of cascara in the British Pharmacopœia of 1898 errs in being at once too precise and not precise enough. Whilst it is not incorrect to say that cascara is "in pieces frequently about 4 inches long, inch wide, and about $\frac{1}{16}$ inch thick," it would be more correct to say in pieces from 1 inch to 2 feet long, $\frac{1}{2}$ inch to 2 inches or more wide, and not more than $\frac{1}{16}$ inch thick." The official description may be read so as to include any bark short of $\frac{1}{8}$ inch thick, which would almost throw us back to the faulty description of the late B.P. of 1885. One never sees cascara which is too thin to be the best; one often sees it too thick to be good.

The immense popularity which cascara has secured as a laxative has stimulated the collection of it to such a degree that this bark of North America is in danger of the fate which has befallen cinchona, the bark of South America. A correspondent in Oregon, writing on April 20, states: "Cascara is being rapidly destroyed in this country, and unless some steps are taken to preserve it on public lands it will soon be a thing of the past." When prices are low, as has been the case for many years now, the bark is stripped anyhow from any part of the tree—the quicker the better, to make up the tale of weight which pays the collector—and, as one result, much is marketed which ought to be burned. One meets with it sometimes $\frac{3}{16}$ inch thick, and this very old bark, which is chiefly cork, yields a very thin, poor, ineffective extract.

In speaking of old bark one must carefully discriminate between bark which has become old on the tree—rough and rugged—and bark which, though collected when young, has become aged by two or three years' keeping. It is to be regretted that the Pharmacopœia does not recognise the opinion, held widely and on well-established grounds, that cascara requires two or three years' ageing after collection for the full development of the most benign principles.

Solid Extract.—In the B.P., 1885. this extract was directed to be made from the bark in No. 40 powder. One pound of cascara was to be mixed with two pints of proof spirit and macerated for forty-eight hours. The thoroughly swollen moist powder was then transferred to a percolator, and when the fluid ceased to pass, the percolation was continued with water until three pints of liquid were collected, or the cascara was exhausted. The percolated liquid was evaporated by a water-bath until a suitable consistence was acquired. It will be noted that the three pints of liquid obtained as above contained the whole of the two pints of proof spirit together with what was dissolved therein from one pound of cascara. The liquid, without any further treatment, was evaporated down to an extract, which accordingly contained all that proof spirit would dissolve from cascara. The consistence of this extract always furnished a debatable point. It was one of the shelved difficulties of the late Pharmacopœia. What must the extract be suitable for? Pills? We thought so, and accordingly made it as stiff as a water-bath would permit. We are aware that other makers must have understood differently, for we have seen it as thin as treacle, only more pourable, because not so viscous.

The directions now given are much more workmanlike than the above. Change of menstruum necessitates a coarser powder. The bark swells more under the influence of water than of proof-spirit, and there is more danger of clogging if the powder be fine. So No. 20 powder is moistened with distilled water, and left a few hours to soften and swell; the limits both of moisture and of time are left to the judgment of the operator, whose experience will soon place him ahead of book directions. The powder is to be exhausted by percolation with distilled water; 30 gals. of percolate will be obtained from 1 cwt. of powder. This is to be evaporated on a water-bath to dryness. The Pharmacopœia does not say so, but very assiduous stirring will be required to effect this. The average of a large number of observations on considerable quantities of bark gives 25 per cent. as the yield of powder-dry aqueous extract from cascara. The yield of dry extract by the 1885 process (very difficult to obtain) is slightly lower, being 22·8 per cent.; the difficulty referred to is caused by a small quantity of a soft hygroscopic principle, which appears to be produced in the proof-spirit solution more readily than in the aqueous one. The percentages yielded show that the 1898 extract contains more of the bark extractive than does that of 1885, for it will be found that after the bark is exhausted with cold water proof-spirit will remove nothing more from it. We may, therefore, go a step farther, and say that the 1898 extract is a better representative of the bark than was that of 1885. It would be erroneous to conclude, however, that because the percentage yields are very close, and because water exhausts cascara perhaps more thoroughly than does proof-spirit, the extracts obtained by these two menstrua must be identical. A comparison will at once show that this is not the case. There can be little doubt that the changes during evaporation, hydrolytic changes, are different in the two processes; they are sufficient to affect the physical characters, but not the therapeutic effects of the two extracts. The proof-spirit extract was of a resinous smoothness and hygroscopic. The aqueous extract is smooth in a duller sort of way, and not nearly so hygroscopic. The doses are the same, but the aqueous extract is less inclined to cause discomfort.

All this confirms a conclusion to which I came in 1897 (*Year-book of Pharmacy*, page 478), that an aqueous solid extract would represent the full activity of the bark.

Liquid Extract of Cascara.—In B.P. 1885 this was prepared by boiling 1 lb. of coarsely-powdered bark in three or four successive quantities of distilled water until exhausted. The strained liquors were evaporated by a water-bath to 12 fl. oz.; 4 fl. oz. of rectified spirit were added, the mixture allowed to stand some hours, and filtered. Finally, the volume was made up to 16 fl. oz. with distilled water.

From good bark, a liquid extract prepared as above had a sp. gr. of 1·060. As met with in commerce, the sp. gr. varied from 1·035 to 1·050, and sometimes 1·060, and included all the figures between. The thinner the liquid extract, the more difficult it was to get the brilliant clearness so much admired by connoisseurs, and various devices were adopted to assist nature in this respect. Brilliancy could always be obtained by means of alkalies, but these invariably denoted their presence by a modification in the colour: the rich reddish yellow became more distinctly red.

The process contains evidence of evolution from the depths of an arm-chair, and does not answer so well as the outcome of practical observations in the laboratory. Twelve fl. oz. of cold liquor representing 16 oz. of bark must have added to it 4 fl. oz. of rectified spirit. This, of course, does not make quite 16 fl. oz., but that volume will be secured afterwards. The mixture is to stand for some hours, and then be filtered. It is, therefore, anticipated that something will separate, and as a matter of fact something does. It does not all separate in some hours though, nor in a few days; something comes down weeks after. The practical difficulties are met when we come to filter We begin with nearly 16 fl. oz. of liquid, which we know contains 4 fl. oz. of rectified spirit, because we have put it in. We place the liquid in a filter which receives the whole of it, and take all precautions to guard against loss by evaporation. How long does it take to filter For the first few hours it goes steadily, gradually slowing off as the paper becomes clogged, and next day the drops are too slow to count; and finally in six days the whole has filtered through. We measure the filtrate and find that there are 15½ fl. oz., which, according to directions, must be made up to 16 fl. oz. with distilled water. Filtering is a mistake with a fluid extract so dense as this one, and when it is performed on so small a quantity as 16 fl. oz., the operation is attended with loss of spirit or cascara, or both; spirit is lost by evaporation, and cascara is lost by absorption by the filtering medium. We may be pardoned for dwelling at so great length on a detail now discarded, so far as cascara is concerned, but still in force with other liquids where it is equally, or almost equally, objectionable. It helps us to emphasise the great improvement in the liquid extract of B.P. 1898.

When reading the official instructions for preparing this, we cannot help a comparison with the preceding monograph in the Pharmacopœia, which treats of ext. cascaræ sagradæ, and gives instructions in a general but sufficiently particular way. For the liquid extract under consideration most minute instructions are laid down as to how much water shall be used for moistening, and how long it shall stand before the percolation is begun. This particularity seems no more necessary in the one case than in the other, as the processes are identical until the evaporation down to 12 fl. oz. This is the volume of liquid to be obtained from 1 lb. of No. 20 cascara. The alcohol to be added, which is proportionately the same as was required in the former Pharmacopœia—viz. 4 fl. oz. of 90-per-cent., must be mixed with an equal bulk of water, so that finally 20 fl. oz. of liquid extract are obtained from 20 oz. of bark. The reason for concentrating the liquor to 12 fl. oz., and adding 4 fl. oz. of 90-per-cent. spirit mixed with an equal bulk of water, rather than to 16 fl. oz., and adding 4 fl. oz. of 90-per-cent. spirit, does not appear on the surface; but the present official method avoids, as far as possible, the separation which is caused by adding strong spirit to the aqueous liquid. It will be noticed that no filtering is directed to be done, but the liquid is allowed to clear itself by subsidence. This is a decided improvement on the 1885 process, and so is the preparation itself. But a further improvement—one which we regard as of very great importance, and which would result in a more uniform preparation—would be to fix a sp. gr. The variations already mentioned were discreditable to pharmacy; but they will continue so long as a lax description permits great variations in the drug, for with the present description of cascara and the process for the liquid extract, uniformity is not secured. The sinister effects of this laxity may be minimised, perhaps removed, if a sp. gr. be officially fixed.

A very rich, well-matured, selected bark gave in our laboratories a liquid extract having a sp. gr. of 1·080; but one could not count on always obtaining such a result, because bark so rich is not always available. Let, however, a fairly high average density be fixed, based upon bark of sterling value, such bark, for example, as would give a liquid extract of sp. gr. 1·060. It would only be necessary to apply here a principle already in force (see ext. glycyrrh. liq.), and direct that the percolate shall be evaporated "until when cold it has a sp. gr. of 1·155, then add to each 12 fl. oz., 4 fl. oz. of 90-per-cent. alcohol previously mixed with an equal volume of water." Having a liquid extract made uniform in this way, much less would be heard of uncertainties and variations.

Correspondence

Notice to Correspondents.

In writing letters for publication correspondents should adopt a concise, but not abbreviated, style. They are requested to write on one side of the paper only. Letters, with or without a nom-de-plume, must be authenticated by the name and address of the writer. Queries should be written on separate pieces of paper, and the regulations printed under the sections to which they apply should be strictly observed.

The British Pharmaceopœia.

SIR,—Mr. John C. Umney writes in THE CHEMIST AND DRUGGIST, No. 943, page 794, that the French syrup. ferri iodidi contains 5 per cent. by weight of ferrous iodide, but it contains (*vide* Codex) only 0·5 per cent. The German contains 5 per cent.

St. Blasien, Germany. PAUL GLOESS.

SIR,—Supplements to the B.P. are necessary. Pharmacists should have a statutory right to assist in any revision after adequate conference. Those concerned should always be consulted. For the most part B.P. preparations should be those prescribed by the medical profession for use in dispensing; other preparations, such as milk of sulphur, sweet spirit of nitre, &c., ought to be able to be sold where the public wish and have been accustomed to them.

Lewes. W. T. MARTIN.

SIR,—May I offer a few remarks on the fruit lozenges of the new Pharmacopœia?

It appears that some firms are making them smooth, whereas others are making them rough. I think they should be made smooth, as it is quite easy to produce them with a smooth surface.

They do not contain a large proportion of fruit extract, whereas the fruit lozenges of the Throat Hospital Pharmacopœia, which are usually rough, consist mainly of fruit extract, and in making these it is necessary (and not a matter of choice), to prevent the paste sticking to the slab, to use coarse sugar.

If a lozenge can be made with a smooth surface, it appears to me that it is more convenient to the patient, while it is more likely to be of accurate strength.

The rough sugar used in dusting fruit lozenges is far heavier and more bulky than starch powder (which is used with smooth lozenges), and as it adheres to the scraps dilutes the same, and the last lozenges cut are likely to be weaker than the first, unless precautions are taken and constant supervision exercised to see that the directions given are carried out by the workpeople.

It is evident also that the stamping of the name on smooth lozenges is far more legible than on the rough.

This also is an advantage.

For these reasons it appears to me that the new B.P. fruit lozenges should be made smooth. FRED. W. WARRICK.

7 Portpool Lane, E.C., May 25.

SIR,—I think a decennial revision a very good arrangement, but that alterations should only be made when there is some clear gain from them, either medically or pharmaceutically. Further, the revising body should consist principally of pharmacists and scientific men versed in chemistry, materia medica, and kindred subjects. The medical profession should certainly be represented, but subordinately, as they are not, as a body, conversant with pharmacy to any great extent. The revisers should be more cautious with synonyms. Yours, &c.,

Alresford, Hants, May 13. WILLIAM WILLIS.

SIR,—It is quite true that laudanum was not a synonym for tr. opii until a legal decision made it one, but I think most pharmacists agree with the decision. Be this as it may, I am quite sure that, generally speaking, laudanum-takers prefer the official to the aqueous tincture when they have an opportunity of comparing the two. It has been my lot at different times to have to make and sell four different "laudanums." First, there was the old P.L. tincture, made, as was then allowed though not recommended, with methylated spirit. When spt. meth. gave place to spt. rect., people used to bring the stuff back with the complaint that it "warn't half as strong as th' owd sort," just as Mr. Cadge says that his customers still reject tr. opii. B.P., though hardly for the same reason. In another place we made laudanum according to the following formula:—

Gum. opii	lb.iiss.
Aqua bull.	Cong.iij.
Ext. papav. alb.	℥ij.
Ext. glycyrrh.	℥iv.
Spt. vini rect.	Cong.iij.

Macerate for fourteen days and strain

—and in another according to the B.P., but with only 25 per cent. of rectified spirit. I have known chemists who made both laudanum and paregoric half strength. When asked what the result would be if a person in the habit of taking a full dose of either of these should chance to take the same dose of the corresponding B.P. preparation, one of these gentlemen coolly replied, "Oh, that is the other fellow's business." I think I have said enough to prove that uniformity is desirable, and experience has convinced me that it pays best to stick to the Pharmacopœia. I may say that I refer only to experience gained in the two counties of Nottingham and Lincoln. I have never retailed any but the pharmacopœial tincture elsewhere. I do not say that the aqueous tincture is not sold elsewhere, for I know that it is.

I am, &c.,

C. C. BELL.

SIR,—I think it would be advisable to have the B.P. revised decennially rather than in the haphazard fashion we have adopted, with intervals of three, eighteen, and thirteen years, and goodness knows when we shall have the next. Personally, I don't think I shall find the change much of a nuisance. I don't think the Medical Council will expect chemists to empty all their 1885 preparations into the gutter and start afresh. I shall replace my stock with the new B.P. preparations when they run out, except in the case of one or two potent articles, such as tr. aconit. and tr. colch. sem., of which I intend to keep a stock of each kind, and, as to the expense, beyond the price of the book and a few metric weights and measures, it will cost me nothing extra. I am quite in agreement with the Treasurer of the Society. The doctors make the book, and the chemists use it. To a doctor it is merely a book of reference, and not half as useful as "Squire" or "Martindale"; and these are the people who have the power to say, not only what shall be in, but how the things shall be prepared, and the result is a mess like the 1885 lin. terebin. or mist. ol. ricini in some cases, and in others the processes might be considerably improved.

How the change is to be brought about I do not pretend to say, but I think some of our leaders might take the matter into serious consideration and see if something could not be done. In conclusion, allow me to thank you for sending the B.P. so promptly. Yours very truly,

Bradford, May 14. FRED. A. WILCOCK.

SIR,—Of the alterations and additions of the new Pharmacopœia, probably none affects the majority of chemists so much as the adoption by the Medical Council of sweet nitre as a synonym of sp. eth. nit., and camphorated oil as a synonym of lin. camph. As everybody knows, it has been legally decided, time after time, that sweet nitre is not synonymous with spirit of nitrous ether, and it has not been satisfactorily proven that camphorated oil is liniment of camphor. It is, I think, open to doubt whether the Medical Council, notwithstanding its authority, can, in its wisdom (or caprice?) so alter the law as established by immemorial custom. Indeed, if one takes the matter to its logical conclusion, we may expect to have "chillie paste" as a synonym of ung. capsici and liquor carb. detergens as a synonym of liq. picis carb. (ignoring the rights of Smedley and Wright), and, perhaps, in later days, when syr. hypoph. co. and syr. phosph. co. come with their synonyms, it will be required of Mr. Fellows and Mr. Squire that they alter their formulas, in order to be in conformity with the book of authority—the British Pharmacopœia.

Yours truly,

Gladius. (183/3)

[The Medical Council cannot alter the law. The Pharmacopœia is only evidence; it is not a legal standard except for medicines prescribed by medical men.—Ed. *C. & D.*]

Store Chemists' Circulars.

Sir,—I forward for your inspection a copy of a bill pushed under my private entrance door yesterday, which circular is being distributed to the residents of Pimlico. It appears to me that in sending out a circular accusing the chemists of Pimlico of extortion Messrs. Lewis & Burrows (Limited), who are opening two shops almost within a stone's throw of each other in the neighbourhood, exceed the bounds of fair trading. As will be seen from the prices of some of the articles offered—for instance, Pears' soap, the 6*d*. size for 3*d*.—Lewis & Burrows sell under the cost price, in order, no doubt, to make the public believe that they are honest traders and we are not.

Since I commenced business in Pimlico I have always met legitimate competition with the large stores—*i.e.*, fair prices—but when a drug company which pays no dividends to its ordinary shareholders bemeans itself so far as to accuse chemists of Pimlico of extorting money by excessive charges it seems to be going a little too far, if it is not libel.

Faithfully yours,

20 Sussex Street, A. E. Bertie-Smith.
Warwick Square, London, S.W.,
May 18.

[The essential points in the circular are the announcement that "Lewis & Burrows (Limited), the popular store chemists, have declared war against the extortionate prices charged by chemists in the district of Pimlico," and "why pay exhorbitant (*sic*) prices for medicines? Buy of us, and save 30 to 50 per cent."]

The Assistants' Union.

Sir,—Twelve months ago I was as bitter against companies as "Tocsin." Now I am manager of a company-branch. How did this happen? At the time I speak of I was senior assistant to a widow who carried on business with a qualified married manager. Thinking of getting married myself, I applied for a nominal advance of salary, which was refused, and I left. I tried my hardest to get a salary which I thought a qualified man was justified in asking. No chemist would give it—(I could have had half a dozen places at less). Through a friend who was with a company, I decided to apply for a situation in one of their branches. I did, and they offered me 13*l*. per year more than I had been asking. I joined the firm. Five months after I decided to marry. They gave me a week's holiday, paid the salary for that week, and paid the carriage upon my furniture (which I had already bought), a distance of between 200 and 300 miles.

I have just completed twelve months' service with them, and they have raised my salary. Where is the private chemist with a record for twelve months like that? I have light hours: close Wednesdays at 1 o'clock, no Sunday or Bank Holiday duty. I wouldn't change with any chemist in this town if I had the chance to-morrow.

I am, &c.,

Manager. (182/34)

About the Adrenals, Merck, and Marrow.

Sir,—At the risk of being wearisome I would like to point out that the employment of glycerin as a solvent for the active principle of animal glands has received the commendation of Dr. Mankovsky, a recent Russian investigator, reported in the current *British Medical Journal*. I have several times insisted that glycerin is the most suitable solvent for these substances, and am also pleased to see that Dr. Mankovsky lays stress on the importance of the manipulations being carried out aseptically. He does not seem to insist that the glands should be used whilst still hot from the animal, but this I believe to be a matter of prime importance, and I am inclined to think that the pain which he describes as having followed the injection of the adrenal-extract was possibly due to neglect of this precaution.

To advert to another remedy, *Merck's Annual Report*, which is a marvel of industry and erudition, but which seems to be compiled in a spirit of contempt for any but continental authorities, says that late experiences are not calculated to establish the value of medulla ossium rubra as a remedy. As I had seen marvellous results follow from the use of this remedy the statement appeared surprising, and still more so the explanation, which is that Charrin and Chassevant had found that the formation of fresh blood-corpuscles took precisely the same course under the bone-marrow treatment as under the iron treatment and in natural recovery. But surely we do not want to do better than to bring on the natural process of recovery, and certainly the field for bone-marrow is where the ordinary iron remedies cannot be tolerated.

Yours truly,

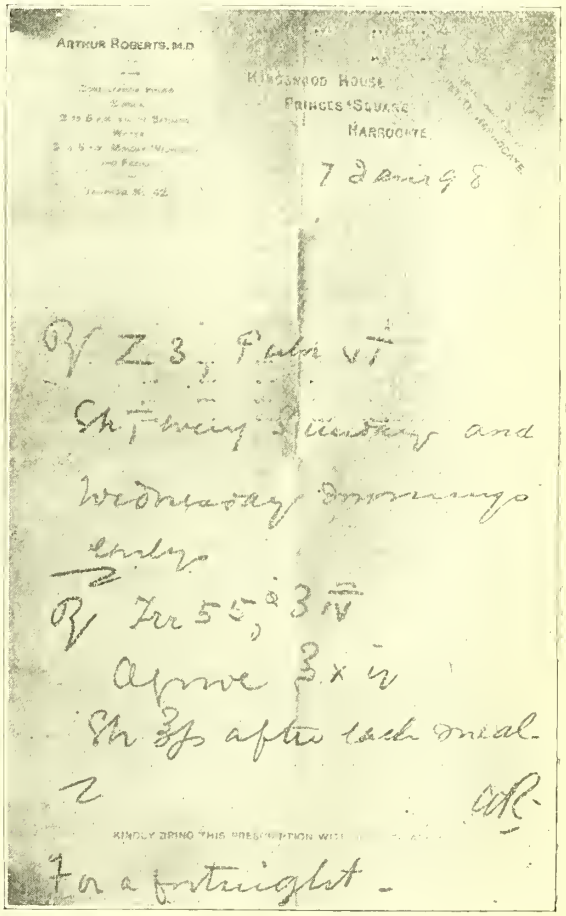
19 North Earl Street, Dublin, J. C. McWalter.
May 21.

DISPENSING NOTES.

This section is intended for the elucidation of dispensing difficulties. Subscribers and their employés may contribute to it, criticising any of the following notes or contributing notes on prescriptions which they have found to be of unusual interest.

A Drug-store Pharmacopœia Wanted.

Mr. J. T. Bentley, chemist, of Haworth, sends us the photograph of a prescription brought to him recently to be dispensed. The photograph was a difficult one to be reproduced, but we think the exponent of such peculiarly recondite pharmacy deserves some trouble. This is the outcome:—



Arthur Roberts, M.D.

Kingswood House
Princes Square
Harrogate

7 Jany 98

℞ Z 3 [illegible]

[illegible] and
Wednesday mornings
only

℞ [illegible]
Aqua ad ℥x [illegible]
[illegible] after each meal

A.R.

Kindly bring this prescription with [illegible]

For a fortnight

Mr. Bentley found the prescription too much for him, and asked if the doctor had given any directions. He was told that the prescriber had mentioned Taylor's Drug Company.

Dispensing Charges.

164/67. *S. & S.* (Ootacamund) write in reference to the prescription in *C. & D.*, March 26, 1898, page 526, which was said to have been dispensed at a London stores for 3*s.* 6*d.*, that the charge there would be about 10*s.*

Quinine and Alkalies.

Sir,—Will you kindly say if it is possible to make a presentable mixture of the following? All goes well until the potash is added, when the quinine comes out and sticks in patches on the sides of the bottle:—

Ferri quin. cit.	ʒiss.
Potass. bicarb.	℥ss.
Tr. nuc. vom.	ʒj.
Aq. ad	℥xij.

M. Ft. mist.

One-twelfth part to be taken with lemon-juice.

Yours truly,
Dispenser. (171/48.)

[Carbonates and bicarbonates precipitate quinine from citrate of iron and quinine in solution. A little mucilage (½ oz.) will make the above presentable.]

Iodide-of-iron Mixture.

Sir,—Can you please explain why the following mixture should sometimes turn red and afterwards deposit on sides and bottom of bottle? It does not always do it, though dispensed in precisely the same way:—

Quin. sulph.	gr. x.
Ac. nit. mur. dil.	ʒiss.
Syr. ferri iodidi	ʒiv.
Spt. chlorof.	ʒj.
Aq. ad	℥viij.

M. Ft. mist.

Puzzled. (175/42.)

[Nitro-muriatic acid and iodide of iron are incompatible; iodine is liberated, and the quinine thrown out as iodide. Mixing the ingredients differently or inaccurately measuring them is the probable cause of your getting differing mixtures.]

Fermentation in a Mixture

Sir,—Can you inform me why the undermentioned mixture after about a week in bottle turns greenish and bursts; also how to prevent it bursting the bottle:—

Ferri et ammon. cit....	gr. lxxx.
Potass. iodidi...	gr. xvj.
Sodæ pot. tart.	ʒiv.
Vin. antimonial.	gtt. lxxx.
Glycerini	ʒvj.
Aq. ad	℥viij.

Yours faithfully,
F. L. R. (179/60.)

[Fermentation takes place, the quantity of glycerine being insufficient to preserve the mixture. Chloroform-water would obviate this defect.]

181/60. *E. B. S.*—It is mixtures of the subnitrate of bismuth and carbonate of soda which burst their vitreous bonds when improperly dispensed. There is no action in the case of subcarbonate.

MISCELLANEOUS INQUIRIES.

Notice to Querists. *We reply to our subscribers and their employés only; queries must, therefore, be authenticated by the name and address of the subscriber. When more than one query is sent write each on a separate piece of paper. When a sample accompanies a query full particulars regarding the origin and use of the sample must be given, and the name of the querist should be placed on the sample. Queries are not replied to by post.*

85/35. *W. H. W.*—For **Destroying Crickets**, quicklime, chloride of lime, tobacco, and liquid ammonia are used. The latter is syringed into their haunts; the other three are placed in the crevices. For **Destroying Ants** in gardens, pour a tablespoonful of bisulphide of carbon into their nests, and cover up for a little while with a cloth.

166/73. *Spider.*—You will probably find fumigating the glass-roofed grotto with formalin effectual in destroying spiders.

169/51. *Dye.*—The triphenylmethane colours and sulphonic-acid colours of the same have the reputation of being the most stable of the aniline dyes. The reds are magenta and acid magenta, which will be found the most useful for colouring photographs. The phthalein colours (eosin, erythrosine, and rose-bengale) are the ones you must avoid, as they are very fugitive.

167/31. *Seagull*—You may use wood-naphtha in your hair-wash in place of rectified spirit, if you wish to cheapen it. Some strong perfume, such as citronella or verbena, will make it fairly acceptable.

173/44. *Wales.*—Liq. sodii ethylatis is the best thing for removing moles from the face. Care is necessary in using it.

167/68. *Carrick.*—(1) Hydrarg. monoioduret is green iodide of mercury (HgI). (2) **Obscuring Glass.**—This is done by applying a solution of Epsom salts in beer, or by dabbing with putty, or applying a thin coating of paint. (3) The cinnamon water was probably stale.

96/13. *J. A. B.*—See reply to "Vigor," *C. & D.*, May 21, 1898, page. 850. We hope to get your cheery letters for a good many years to come yet.

176/43. *London.*—You will find directions for making **Koumiss** in "Pharmaceutical Formulas," page 243.

116/20. *C. G. S.*—You should get a copy of "Pharmaceutical Formulas," which will give you the recipes you ask for, and save us repeating them here.

177/2. *Borax.*—In dispensing percentage solutions for medical use the ounce of liquid is reckoned as 480 minims. We gave in the 1895 Diary a convenient table for percentage solutions.

12/5. *Standard.*—A trace of Bismark brown would give the milk-preservative the colour which you think will be more acceptable to a milkman.

113/38. *E. J. T.*—(1) Books of reference are not allowed to Minor candidates in the examination-room, nor may they take into the examination-rooms or laboratories any books, notes, or memoranda whatever. (2) The new B.P. will not be used in the examinations until January, 1899.

113/37. *Suffolk.*—We are issuing in a few weeks "Diseases and Remedies," which is just the book you want.

181/33. *Verdigris.*—**Acetate-of-amyl Collodion** is prepared by dissolving 1 oz. of celluloid parings in a pint of acetate of amyl by prolonged shaking.

179/70. *A. S.* (N.S.W.)—(1) Ink is generally stored in casks. (2) See The Chemists' and Druggists' Diary, 1887, page 266, or "Pharmaceutical Formulas," page 459, for chlorodyne-substitute formulas. (3) We cannot say how far your colonial laws affect the sale of articles with British Pharmacopœia names, but not of B.P. standard. (4) The colourless "Rose-blush Liquid" is a weak solution of alloxan in water. The strength needs adjusting after trial.

174/35. *Bromo.*—(1) We have no formula for the preparation you desire. (2) **Calcium Tungstate** for fluorescent screens—Precipitate calcium tungstate from sodium-tungstate solution by means of calcium chloride. Wash and dry the precipitate, then mix with an excess of powdered borax, and fuse at a strong red heat in a crucible. The heat should be gradually withdrawn, and the contents of the crucible allowed to cool slowly. The mass is then washed with water to dissolve out the borax, leaving the calcium tungstate in distinct crystals.

131/36. *Meteor.*—The **Santal and Acacia Emulsion** will keep well if you add a little chloroform as preservative.

183/34. *T. J. T.* sends a powder which he *thinks* is a starch-gloss, and asks us to analyse it. "T. J. T." should read the notice at the head of this section, and also try to find something more original in the way of a pseudonym than "Subscriber."

166/67. *Zemo* sends a powder which was used largely in Gloucester recently as a prophylactic against smallpox. We find it to consist of chloride of ammonium coloured with cochineal. "Zemo" should have given us full directions as to how it was used.

183/30. *N. F. L. K*—(1) **Custard-powder.**—See *C. & D.*, January 23, 1897, page 139, or "Pharmaceutical Formulas," page 282. (2) **Blancmange-powder.**—Custard-powder without the colouring. (3) **Jelly Squares.**—See *C. & D.*, January 30, 1897, page 219, or "Pharmaceutical Formulas," page 437.

165/42. *W. J. F.*—The "remarkably efficacious" **Cough-mixture** consists of—

Ammon. carb.	gr. ij.
Tr. senegæ	♏xv.
Vin. ipecac.	♏v.
Liq. amm. acet.	ʒj.
Aq. camph.	
Aq. dest. aa ad	℥ss.

Pro dosis.

175/5. *Hestor.*—No. I. **Spray-solution** consists of a solution of boric acid (ʒiv. to Oj) in aq. gaultheriæ, whilst No. II. is a solution of salicylate of soda (ʒij. to Oj.) in a similar medium. Whilst being pleased to give you this information, we would like to add that you give us no particulars about the articles—not even whether they are any good for the purpose. We should be pleased if you and other querists would bear in mind the real object of this section of our paper.

169/40. *Veritas.*—The headache-powders consist of powdered guarana. The dose is 30 gr., which may be repeated in a couple of hours if needed.

164/27. *Asthmatic.*—The active principle of the **Asthmatic-mixture** is a tar-syrup preparation, probably syr. picis U.S.P., the formula for which is given in "Pharmaceutical Formulas," page 613.

188/39. *E. W. H.*—The **Lotion for Bad Leg** is a solution of sulphate of zinc, 40 gr. to 1 pint of water, and is coloured with liq. rosæ dulc.

165/14. *Cymro.*—The **Cream-preservative** is a mixture of boric acid and sugar.

170/13. *Carbo.*—The following is the nearest we can get to the composition of the **Pigeon-pills**:—

Ferri peroxidi	ʒiss.
P. saponis	ʒj.
P. capsici	gr. v.
Ol. anisi	♏vj.

Ft. pil. xxiv. Coat. Two pills daily for each pigeon.

165/69. *W. J. L.*—**Hair-dye** in two solutions.—This is more in the nature of what is called a "restorer." No. I. is a solution of acetate of lead (about ʒij. in 10 oz.). No. II. is hyposulphite-of-soda solution, 2 oz. to the pint. Each solution is suitably perfumed, and both contain a little glycerin.

166/45. *Gentian* has lost his formula for **Rheumatic Pills**, and sends us three pills and asks us to analyse them. "Gentian" evidently has unbounded faith in our analytical skill, but forgets that this is a matter of no interest to anyone but himself.

185/52. *Sen.*—The **Powder** you send, which is mixed with a pint of linseed oil and given to cattle **For Murrain**, consists of ½ oz. of chlorate of potash coloured with Armenian bole.

185/51. *Acetum.*—Your **Powder-cement** used for fastening down linoleum is common dextrine coloured with some earth resembling rotton-stone. There is no difficulty in detecting the presence of dextrine.

191/16. *Falcon.*—We have not a formula by us for the mixture you ask for.

160/53. *Senega.*—Your sample of bronchitis-mixture is too small for the purpose of analysis, and, besides, is hardly of sufficient interest to other readers to warrant us undertaking it.

180/48. *Worcester.*—The filtration of glue and gelatin liquors in process of manufacture is done, we understand, through wire-gauze filtering-beds.

184/65. *W. M. M.*—**Blue Lacquer for Tinplate.**—A solution of 4 oz. of shellac in a quart of spirit is first prepared, and a sufficiency of aniline blue added to give the required colour. The addition of ʒj. boric acid to Oij. is recommended, with the object of making the lacquer adhere better.

183/13. *Tussis.*—Your **Cough-powder for Horses** has the following composition:—

Camphor	ʒij.
Ammoniacum	ʒij.
Nitrate of potash	ʒiv.
Powdered ginger	ʒj.

Make a powder. Give one twice daily in the food.

188/13. *J. A. M.*—The following is the outline of the process for **Manufacturing Glue.** The bones are first picked over and freed from rags, iron, &c., and then ground to 3-inch sized pieces in a bone-mill. The crushed bones are then put into vats with hydrochloric acid, and digested till soft and transparent. After this digestion in acid the bones are taken out and washed till free from acid, and then subjected to the action of superheated steam in iron digesters, holding about 18 cwt., for three or four hours. The fatty and gelatinous liquors are run off into tanks to settle, and the fat skimmed off. The gelatinous liquor is at this stage bleached, if required, by sulphurous acid. The liquid is then concentrated by boiling, by means of steam-coils, to such a strength that a little of the liquid when cold forms a firm jelly. When of proper strength the glue-liquor is run into moulds, and, when set, cut up by wires and laid on nets and dried in carefully regulated drying-rooms.

167/65. *Embrocation.*—The "Marvellous Cure for Gout-pain" consists mainly of soap-liniment and belladonna-liniment.

189/32. *B. C.*—Do not waste your time and ours by sending anonymous postcards.

18/5. *Gloucester.*—(1) **Digestive Syrup.**—The following formula we published in 1887:—

Dec. aloes co. conc.	℥ij.
Boracis	gr. xx.
Pulv. capsici	gr. ij.
Pulv. gentian.	gr. xxx.
Ol. sassafras	♏v.
Ol. gaultheriæ	♏ij.
Spt. rectif.	ʒij.
Ext. tarax. liq.	℥ij.
Euonymin.	gr. vj.
Theriacæ ad	℥iv.

M.

(2) **Pennyroyal-and-steel Pills**:—

Ferri sulph. exsicc.	℥j.
Pulv. canellæ	℥j.
Pulv. aloes	℥j.
Ol. pulegii	♏xxx.
Ext. gentianæ	q.s.

Roll into 4-gr. pills.

190/20. *Conduranga.*—The registrar under the Pharmacy Act will not tell you what subject of the Preliminary examination you have failed in. He is only authorised to say whether candidates have failed or passed, and possibly he might think the heavens would fall if he exceeded official instructions.

193/33. *G. E.*—The combined bath only requires filtering or decanting.

191/29. *W. P. B.*—(1) We note what you say about a percentage system, but is not the present system of metric weights ample for the purpose? (2) Your inquiry was answered months ago. See *C. & D.*, January 1, 1898, page 30.

114/17. *King* is going in for the Minor fifteen months hence, and wishes to know if the popular chemistry and pharmacy text-books cover the B.P. alterations. That is almost an absurd question,as no new editions of text-books in conformity with the B.P., 1893, have yet been published. The best plan for "King" and those in his position is to work along quietly with the new B.P. until new text-books are available; but it would be greatly to their advantage if they would take, say, Cripps's "Pharmacy" and Southall's "Materia Medica" and carefully compare with the B.P., marking in the text-books the changes which have been made. Considerable assistance in this may be obtained from our review of the new B.P.

169/47. *B. S.*—The plural of narcissus is narcissuses (Webster).

182/28. *Hypo*—The question of the development of sulphuretted hydrogen in syr. hypoph. co. was dealt with in a paper by Mr. N. A. H. Naylor before the B.P.C. in 1895 (*C. & D.*, August 3, 1895, page 211). It was found by him to be due to the action of phosphoric acid on traces of sulphite in the hypophosphites.

189/44. *J. J.*—The "Kaffir orange" you send is the fruit of *Strychnos spinosa*. The pulp of the fruit is commonly eaten in the countries where the plant grows. It has an agreeable flavour, From its close relationship with *Strychnos Nux Vomica* the seeds are probably poisonous. The plant is found in Seychelles, tropical Africa, Natal, and Madagascar.

185/69. *J. W. M.*—(1) **Black Oils**:—

Olive oil	℥xij.
Turpentine	℥iv.

Mix, and add gradually—

Sulphuric acid	ʒvj.

and allow to cool.

There is another recipe in "Pharmaceutical Formulas,' page 570. (2) **Cud-balls**:—

P. althææ	℥j.
P. acaciæ	℥j.
P. glycyrrh.	℥j.
Sodii chlor.	ʒij.

Make into a stiff mass with water, and cut up to suitable sizes.

186/56. *Torquay.*—Your method of perfuming programmes needs improving as follows. Mix with 1 lb. of bran or ground rice—

Ol. bergam.	ʒij.
Ol. neroli	ʒj.
Ol. amygd. am.	♏xv.
Ol. verbenæ	♏x.
Ol. patchouli	♏v.

and use the resulting satchet-powder for sprinkling on the programmes, which put in a box for a day. When taken out the programmes will need dusting.

185/1. *Devonshire.*—You do not say what the "cream" is for.

184/73. *Apprentice.*—Make the lemonade-powder with tartaric acid, and do not use such a finely-powdered sugar. Citric acid goes damp much sooner than tartaric acid.

184/69. *Le Reposey.*—To make labels stick on tins you will require either to roughen the surface with sandpaper or coat with a solution of gelatin (1) in acetic acid (4). The gelatin solution is allowed to dry before sticking on the label.

184/38. *Spring.*—We cannot repeat the formula for **Household Ammonia**. We have given formulas many times. There is a good one in *C. & D.*, June 26, 1897, page 1013.

186/43. *E. J.*—**Syr. Hypophosph. Co.**—We gave a formula for a neutral syrup in *C. & D.*, September 19, 1896, page 470. There is also one in "Pharmaceutical Formulas," page 610.

183/5. *S. H.* inquires as to the facilities for pharmaceutical study in Leicester or Loughborough. There are no schools of pharmacy in either of these towns, but plenty of classes exist at which pharmaceutical studies can be pursued.

184/45. *N. F. S.*—**Xylonite** is printed on with hot brass type with an "ink" of the nature of sealing-wax.

188/37. *X. Y. Z.*—Your **Boot-sole Dressing** is the one we examined and reported on August 31, 1895, page 365. Will you please refer?

188/32. *O. F. D.*—You will find a draught of 1 oz. of turpentine and 5 oz. of linseed oil given for husk will be of service for removing tapeworms. The dose should be administered once or twice daily.

188/25. *Sher Green.*—**Tonic Powder or Condiment for Fowls**:—

Ferri peroxidi	℥j.
P. gentian.	℥j.
P. piper. nig.	℥ss.
P. fenugreci	℥j.
Potas. nitr.	℥ss.
P. lini	℥viij.

M.

A tablespoonful to be mixed with the food of twelve fowls daily.

172/45. *Aski.*—One of your samples is bitumen (asphalt); the other is black pitch (coal-tar residue). Asphalt is only partly soluble in spirit, but much more in turpentine. Samples vary much in their solubility.

184/56 *C. M.*—The small quantity of sulphate of copper your customers mix with their whiting cannot exert any injurious effect on the walls. It is quite possible, however, that the use of it on the walls before papering will affect the colours of wall-papers.

183/28. *Poulter.*—The milk-preserving powder is a mixture of borax and boracic acid in about the proportion of 1 oz. borax to 4 oz. of acid.

179/43. *Ferrum.*—Your sample of anti-corrosive fluid for steel or iron is a strong solution of caustic soda. The brown colour of the solution we cannot identify; it may be only an impurity.

INFORMATION WANTED.

The Editor will be obliged for replies to the following from any who can furnish the information.

189/19. Address of maker of the Boron cell.

185/41. Where can "Grape Tannin" be obtained in quantity?

190/42. Makers or agents for "Dr. Arnold's organic hair-renewer."

Coming Events.

We insert notices of association and society meetings in this section free if they are sent to us, on postcards, by the Wednesday of the week before the meetings are to be held.

Thursday, June 2.

Royal Institution of Great Britain, Albemarle Street, Piccadilly, W., at 3 P.M. "Modern Methods and their Achievements in Bacteriology" (Lect. I.), by Dr. E. E. Klein, F.R.S.

Chemical Society, Burlington House, W., at 8 P.M. "The Action of Ether on Organic Acids and on Carbohydrates in Presence of Hydrogen Bromide," by Mr. H. J. H. Fenton and Miss Mildred Gostling.

Medical, Surgical, and Hygienic Exhibition, Queen's Hall Langham Place, W. From May 31 to June 3 inclusive. Hon. Secretary, Mr. H. Blau, 29 New Bridge Street, E.C.